

## AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER  
UNDER DPAS (15 CFR 350)

RATING

DO-C9

PAGE OF PAGES  
1 752. CONTRACT NO. (Proc. Inst. Ident.) NO.  
NAS5-991243. EFFECTIVE DATE  
January 18, 19994. REQUISITION/PURCHASE REQUEST/PROJECT NO.  
560-58392A

5. ISSUED BY: CODE 215

National Aeronautics and Space Administration  
Goddard Space Flight Center  
AETD/STAAC Procurement Office  
Greenbelt, MD 20771

6. ADMINISTERED BY (If other than item 5) CODE

DCMC  
217 East Redwood Street, Suite 1800  
Baltimore, MD 21202-5299

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP

QSS Group, Inc.  
4500 Forbes Boulevard  
Lanham, MD 20706

CODE ONWP5

FACILITY CODE

8. DELIVERY

☐ FOB ORIGIN☐ OTHER

9. DISCOUNT FOR PROMPT PAYMENT

N/A

10. SUBMIT INVOICES (4 copies unless other-wise specified) TO THE ADDRESS SHOWN IN: ☐ ITEM

11. SHIP TO/MARK FOR

See Clause F.3

CODE

12. PAYMENT WILL BE MADE BY: CODE

151.3A

NASA Goddard Space Flight Center  
Financial Management Division  
Accounts Payable Section  
Greenbelt, MD 20771

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN N/A

☐ 10 U.S.C.  
2304(c)☐ 41 U.S.C. 253(c)

14. ACCOUNTING AND APPROPRIATION DATA

See Page 1A.

15A. ITEM NO.

15B. SUPPLIES/SERVICES

15C. QTY

15D. UNIT

15E. UNIT PRICE

15F. AMOUNT

Multidisciplinary Engineering Development  
Services (MEDS)Contract Type: Indefinite Delivery/Indefinite  
Quantity

Contract Specialist: Lorrie L. Eakin, Code 215

COTR: Frederick G. Huegel, Code 568

15G. TOTAL AMOUNT OF CONTRACT ☐ \$ See Clause B.5

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## CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17 ☐ CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 3 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents (s) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18 ☒ AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number \_\_\_\_\_ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)  
Frank F. Islam, President & CEO20A. NAME OF CONTRACTING OFFICER  
Lorrie L. Eakin

19B. NAME OF CONTRACTOR

19C. DATE SIGNED

20B. UNITED STATES OF AMERICA

20C. DATE SIGNED

BY Frank F. Islam  
(Signature of person authorized to sign)Dec 18,  
1998BY Lorrie L. Eakin  
(Signature of Contracting Officer)

12/18/98

FILE COPY

CONTRACT NAS5-99124  
ATTACHMENT TO SF 26  
AWARD/CONTRACT

BLOCK 14: ACCOUNTING AND APPROPRIATION DATA (CONTINUED)

B/NC: 237  
PCN: 560-58392A(1C)  
JON: 560-992-99-01-02  
APP: 808/90110(98)  
BLI: A300  
OC: 56-2550  
AMT: \$0  
PPC: GF

B/NC: 237  
PCN: 560-06542A(1C)  
JON: 560-992-89-01-01  
APP: 809/00110(99)  
BLI: A300  
OC: 56-2550  
AMT: \$5,000,000  
PPC: GF

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## SECTION B OF NAS5-99124

### SUPPLIES OR SERVICES AND PRICES/COST

#### B.1 DELIVERABLE REQUIREMENTS (GSFC 52.211-90) (OCT 1988)

The Contractor shall provide the services to NASA's Goddard Space Flight Center as described in Section C of this contract and shall provide the following deliverable documentation and reports:

<u>Item</u>	<u>Description</u>	<u>Reference</u>
1	Estimated Cost Increases	See Clause B.3
2	Multidisciplinary Engineering Development Services	See Clause C.1
3	Monthly Progress Reports	See Clause C.2
4	Final Task Reports	See Clause C.2
5	DoD Industrial Plant Equipment (Form DD 1419)	See Clause G.6
6	Semi-Annual Supply and Equipment Management Report (NASA Form 1324)	See Clause G.6
7	Semi-Annual Analysis of Inventory Report (NASA Form 1489)	See Clause G.6
8	Report on Government-Owned/ Contractor-Held Property (NASA Form 1018)	See Clause G.10
9	Requests for Foreign Travel Approval	See Clause G.1 Clause 1852.242-71
10	NASA Financial Management Reports	See Clause G.1 & H.5 Clause 1852.242-73
11	Contract Analysis & Tracking System (CATS) Electronic Files (Prime & Sub)	See Clause H.5
12	Workforce Report	See Clause H.5
13	Miscellaneous Other Direct Charge Report	See Clause H.5

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### SUPPLIES OR SERVICES AND PRICES/COST

14	Monthly On-Site Personnel Reports	See Clause H.6
15	Updated LISTS Data	See Clause H.6
16	Annual Telecommunications Certification	See Clause H.7
17	Subcontract Notification	See Clause I.1 52.244-2, Alt. I
18	Insurance Certification	See Clause I.1 52.228-7
19	Annual Report of Subject Inventions	See Clause I.1 52.227-11
20	Notification of Changes	See Clause I.14

(End of clause)

#### B.2 LIMITATION OF INDIRECT COSTS (GSFC 52.231-90) (FEB 1995)

a. Within each of the Contractor's fiscal years, the Contractor shall not charge or be reimbursed by the Government, under this or any other Government contract, for indirect costs in excess of the individual indirect expense dollars derived by the application of the following indirect cost ceiling rates to the appropriate base(s) set forth below.

<u>Indirect Cost</u>	<u>Base of Application</u>	<u>Percentage</u>					
		<u>CFY* 1</u>	<u>CFY 2</u>	<u>CFY 3</u>	<u>CFY 4</u>	<u>CFY 5</u>	<u>CFY 6</u>
On-Site Overhead	On-Site Direct Labor						
Off-Site Overhead	Off-Site Direct Labor						
Subcontract Admin.	Subcontract Costs						
Material Handling	Material Costs						

SECTION B OF NAS5-99124

SUPPLIES OR SERVICES AND PRICES/COST

G&A                      Total Costs,  
                              Excluding  
                              Subcontracts

\* CFY = Contractor Fiscal Year

b. The limitations may be adjusted at the discretion of the Contracting Officer to the extent that increases to the Contractor's indirect costs are caused by:

(i) New or revised statutes and court decisions and/or written ruling or regulation by the Internal Revenue Service or any other taxing authority.

(ii) Wage determinations and/or regulations issued by the Department of Labor pursuant to the Service Contract Act of 1965, as amended.

c. A proposal for any adjustment under paragraph (b) must be in sufficient detail to establish that the cause of the amount of adjustment requested was solely due to the permitted conditions stated in the paragraph. It must be submitted no later than 60 days after the condition(s) become known, or should have become known, to the Contractor. The amount of adjustment, if any, is at the discretion of the Contracting Officer and shall not be subject to the Disputes clause.

(End of text)

B.3 ESTIMATED COST INCREASES

(a) The requirements of this clause are in conjunction with the Limitation of Cost clause or the Limitation of Funds clause in Section I of this contract.

(b) The Contractor shall notify the Contracting Officer in writing whenever the Contractor has reason to believe that the total cost for performance of any task order, exclusive of any fee, will be either greater or substantially less than the total estimated cost negotiated for said task. Notification shall not be delayed pending preparation of a proposal.

(c) A proposal is required to support a request for an increase in the estimated cost of the task order. The proposal should be submitted as soon as possible after the above notification but,

## SECTION B OF NAS5-99124

### SUPPLIES OR SERVICES AND PRICES/COST

for proposals of less than \$100,000, no later than 15 days before the incurred costs are expected to exceed the estimated cost and no later than 30 days for proposals of \$100,000 or more. These proposal times are intended to allow adequate time for the Government to evaluate the proposal and establish any increase in estimated cost with the Contractor.

(d) The proposal shall provide elements of cost with supporting detail for estimated direct labor hours, direct and indirect rates, materials and subcontracts, and other elements to support the revised estimate to complete the task order. Supporting explanation for the increases and projections, sufficient to allow the Government to understand the reasons for the increased estimated cost, shall be provided. The proposal shall comply with the requirements of FAR 15.403, "Obtaining cost or pricing data", and any other cost data and format requirements that may be required by the Contracting Officer.

(End of text)

#### B.4 INDEFINITE QUANTITY (52.216-22) (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and

SECTION B OF NAS5-99124

SUPPLIES OR SERVICES AND PRICES/COST

obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after 3 months from the end of the contract's effective period.

(End of clause)

B.5 MINIMUM AND MAXIMUM IDIO CONTRACT VALUE

The minimum value of this contract is \$275,000.

The maximum value of this contract is \$275,000,000.

The Government guarantees to issue one or more orders for an amount not less than the minimum value. There will be no further obligation on the part of the Government to issue additional orders thereafter.

(End of text)

B.6 CONTRACT FUNDING (18-52.232-81) (JUN 1990)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$4,566,210. This allotment is for all items and covers the following estimated period of performance: from the effective date of the contract through thirty-one calendar days.

(b) An additional amount of \$433,790 is obligated under this contract for payment of fee.

(End of clause)

B.7 ESTIMATED COST AND INCENTIVE FEE

It is anticipated that the Task Orders issued under this contract, in accordance with Clause H.14, will be issued on a Cost Plus Incentive Fee (CPIF) basis.

CPIF task orders issued under this contract will model the

SECTION B OF NAS5-99124

SUPPLIES OR SERVICES AND PRICES/COST

following format to establish the target cost and target fee for said order.

The target cost of this task order is \$\_\_\_\_\_. The target fee of this task order is \$\_\_\_\_\_. The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$\_\_\_\_\_.

The maximum fee is \$\_\_\_\_\_.

The minimum fee is \$0.

(End of text)

B.8 PAYMENT FOR OVERTIME PREMIUMS (52.222-2) (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed \$0 or the overtime premium is paid for work--

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature:

(2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting:

(3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances' and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise, or

(4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall--

(1) Identify the work unit: e.g., department or section in which the requested overtime will be used, together

SECTION B OF NAS5-99124

SUPPLIES OR SERVICES AND PRICES/COST

with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;

(2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;

(3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and

(4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

(End of clause)



## SECTION C OF NAS5-99124

### DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

#### C.1 SCOPE OF WORK

The Contractor shall perform, pursuant to task orders to be issued by the Contracting Officer, services for the Goddard Space Flight Center in accordance with the Statement of Work (Attachment A) of this contract. Also, the Contractor shall deliver the reports and documentation specified in Clause B.1, Deliverable Requirements, of this contract.

(End of text)

#### C.2 REPORTS OF WORK

(a) Monthly progress reports. The Contractor shall submit separate monthly progress reports of all work accomplished covering all tasks active during each month of contract performance. Reports shall be in narrative form and brief and informal in content. They shall include a quantitative description of overall progress, an indication of any current problems which may impede performance and proposed corrective action, and a discussion of the work to be performed during the next monthly reporting period.

(b) Final task report. The Contractor shall submit a final task report which documents and summarizes the results of the entire task work, including recommendations and conclusions based on the experience and results obtained. The final task report shall include tables, graphs, diagrams, curves, sketches, photographs, and drawings in sufficient detail to comprehensively explain the results achieved under the task. Also, it shall include the estimated final incurred cost for the task.

(c) Report Documentation Page. The Contractor shall include a completed Report Documentation Page (NASA Form 1626) as the final page of each final task report as submitted. The copies provided to the NASA Center for Aerospace Information shall have a completed Standard Form 298, Report Documentation Page, as the last page. Refer to NASA FAR Supplement clause 18-52.235-70, "Center for AeroSpace Information" of this contract.

(d) Submission. The Contractor shall submit the reports required by this clause as follows:

[M=Monthly, F=Final]

# SECTION C OF NAS5-99124

## DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

<u>Copies</u>	<u>Report Type</u>	<u>Addressee</u>	<u>Mail Code</u>
1	M,F	Contracting Officer	215
1	M,F	Contracting Officer's Technical Representative (COTR)	568
1	M,F	Associate COTR	560
2	F	NASA Center for AeroSpace Information Acquisitions 7121 Standard Drive Hanover, MD 21076-1320	

(e) Monthly reports shall be submitted by the 15th day of the month following the month being reported. If the contract is awarded beyond the middle of a month, the first monthly report shall cover the period from award until the end of the following month. The final task report shall be submitted within 10 working days after the end of the reporting month in which the effort under the task order is completed.

(End of text)

## SECTION D OF NAS5-99124

### PACKAGING AND MARKING

#### D.1 PACKAGING AND MARKING FOR SPACE FLIGHT ITEMS (GSFC 52.211-91) (MAY 1997)

(a) The Contractor shall pack and mark all hardware deliverable under this contract in accordance with the provisions of NASA Handbook (NHB) 6000.1D, Requirements for Packaging, Handling, and Transportation, and/or MIL-STD-2073-1 and MIL-STD-2073-2, as applicable, except as noted below:

**NONE**

(b) The Contractor shall pack potentially hazardous items in accordance with paragraph 204 of NHB 6000.1D.

(c) The Contractor shall develop packaging, handling, and transportation records, if required, from engineering and packaging data. The Contracting Officer's technical representative is the approving official of the records and special packaging data under paragraph 302 of NHB 6000.1D.

(d) The Contractor's packaging specifications or procedures may be utilized if they are (i) not in conflict with cited NASA specifications and (ii) approved in writing by the Contracting officer. In any conflict between NASA and the Contractor specifications or procedures, the NASA documents cited in this clause shall take precedence.

(e) The following items to be furnished under this contract are for space flight use:

**TO BE SPECIFIED IN THE TASK ORDER**

(f) All markings for space flight items shall be blue in color. All shipping containers, shipping documents, and purchasing documents for these items shall be marked "ITEMS FOR SPACE FLIGHT USE."

(g) The Contractor shall prominently display a NASA Critical Space Item Label on the exterior of all Class I, Class II, and Class III interim packages and exterior shipping containers to alert all shipping and handling personnel to the criticality of the item in accordance with paragraph 303 of NHB 6000.1D.

(h) The Contractor shall place identical requirements on all subcontracts for hardware items.

(End of clause)

## SECTION E OF NAS5-99124

### INSPECTION AND ACCEPTANCE

#### E.1 LISTING OF SECTION E CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated into this section by reference:

<u>Clause No.</u>	<u>Title</u>
-------------------	--------------

52.246-3	INSPECTION OF SUPPLIES--COST-REIMBURSEMENT (APR 1984)
52.246-5	INSPECTION OF SERVICES--COST-REIMBURSEMENT (APR 1984)

(End of text)

#### E.2 ACCEPTANCE--SINGLE LOCATION

The Contracting Officer or authorized representative will accomplish acceptance at Goddard Space Flight Center. For the purpose of this clause, the Contracting Officer's Technical Representative named in this contract is the authorized representative. The Contracting Officer reserves the right to unilaterally designate a different Government agent as the authorized representative. The Contractor will be notified by a written notice or by a copy of the delegation of authority if different representative is designated.

The Contractor shall notify the cognizant Assistant Technical Representative (ATR) thirty (30) days in advance of the planned date of shipment to the place of acceptance to allow the Government the opportunity to arrange for a pre-shipment inspection of the task deliverables in accordance with the Inspection clause of this contract.

(End of text)

#### E.3 QUALITY (PERFORMANCE ASSURANCE)--CONTRACTING OFFICER'S REPRESENTATIVE (GSFC 52.246-99) (OCT 1988)

FAR clause 52.246-11, "Higher Level Contract Quality Requirement (Government Specification)", of this contract provides the higher level contract quality requirements.

The Contracting Officer's representative for the purposes of monitoring and coordinating the quality and performance assurance

## SECTION E OF NAS5-99124

### INSPECTION AND ACCEPTANCE

requirements of this contract is Mr. Esmond Marvray, Code 303.

(End of clause)

#### E.4 INSPECTION SYSTEM RECORDS (GSFC 52.246-102) (OCT 1988)

The Contractor shall maintain records evidencing inspections in accordance with the Inspection clause of this contract for five years after delivery of all items and/or completion of all services called for by the contract.

(End of clause)

#### E.5 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT (GOVERNMENT SPECIFICATION) (52.246-11) (APR 1984)

(a) Definition. "Contract date," as used in this clause, means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

(b) The Contractor shall comply with the specifications, as listed below, in effect on the contract date, and which are hereby incorporated into this contract.

1. GSFC X-673-64-IF, Engineering Drawing Standards Manual (July 1991)
2. GSFC S-313-009 Fluorescent Penetrant Test Method Requirements and Guidelines (November 1990)
3. NASA Standard 8739.3, Soldered Electric Connections
5. NSTS 1700.7B, Safety Policy and Requirements for Payloads Using the Space Transportation System
6. 2.45 SPW S-100/KHB 1700.7B, Space Shuttle Payload Ground Safety Handbook
7. EWR 127-1, Eastern and Western Range Safety Requirements.

(End of clause)

## SECTION F OF NAS5-99124

### DELIVERIES OR PERFORMANCE

#### F.1 LISTING OF SECTION F CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated into this section by reference:

<u>Clause No.</u>	<u>Title</u>
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52.242-15	STOP-WORK ORDER (AUG 1989)--ALTERNATE I (APR 1984)
52.247-34	F.O.B. DESTINATION (NOV 1991)

(End of text)

#### F.2 EFFECTIVE PERIOD OF CONTRACT

The effective period of this contract shall be for five years from the effective date of the contract. Tasks orders shall not be issued after expiration of this effective period.

(End of text)

#### F.3 DELIVERY SCHEDULE (GSFC 52.212-93) (OCT 1988)

The items required by this contract shall be delivered as follows:

<u>Item</u>	<u>Description</u>	<u>Reference</u>	<u>Date</u>
1	Estimated Cost Increases	Clause B.3	As needed
2	Multidisciplinary Engineering Development Services	Clause C.1	As required
3	Monthly Progress Reports	Clause C.2	15 calendar days following the month being reported
4	Final Task Reports	Clause C.2	As required
5	DoD Industrial Plant Equipment (Form DD 1419)	Clause G.6	30 days prior to approval need date

# SECTION F OF NAS5-99124

## DELIVERIES OR PERFORMANCE

6	Semi-Annual Supply and Equipment Management Report (NASA Form 1324)	Clause G.6	Within 5 working days after March 31 and September 30 each year of the contract period
7	Semi-Annual Analysis of Inventory Report (NASA Form 1489)	Clause G.6	Within 5 working days after March 31 and September 30 of each year of the contract period
8	Report on Government-Owned/Contractor-Held Property (NASA Form 1018)	Clause G.10	As specified in Clause G.10
9	Requests for Foreign Travel Approval	Clause G.1 1852.242-71	30 calendar days in advance of travel
10	NASA Financial Management Reports	Clause G.1 1852.242-73 & H.5	
	a. Monthly (NASA Form 533M)		15 calendar days following the month being reported
	b. Quarterly (NASA Form 533Q)		15 calendar days prior to the quarter being reported
11	Contract Analysis & Tracking System (CATS) Electronic Files (Prime & Sub)	Clause H.5	With Item 10
12	Workforce Report	Clause H.5	15 calendar days following month being reported

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DELIVERIES OR PERFORMANCE

13	Miscellaneous Other Direct Charge Report	Clause H.5	15 calendar days following month being reported
14	Monthly On-Site Personnel Reports	Clause H.6	20 Calendar days following the month being reported
15	Updated LISTS Data	Clause H.6	As required
16	Annual Telecommunications Certification	Clause H.7	January 31st of each year of the contract period
17	Subcontract Notification	Clause I.1 52.244-2, Alt. I	30 days prior to subcontract award date
18	Insurance Certification	Clause I.1 52.228-7	Annually
19	Annual Report of Subject Inventions	Clause I.1	Annually
20	Notification of Changes	Clause I.14	As required

(End of clause)

F.4 PLACE OF PERFORMANCE--SERVICES (GSFC 52.237-92) (OCT 1988)

The services specified by this contract shall be performed at the following location(s):

GOVERNMENT

Goddard Space Flight Center  
Greenbelt Road  
Greenbelt, MD 20771

CONTRACTOR

QSS Group, Inc.  
4500 Forbes Blvd.  
Lanham, MD 20706

MEDS Off-Site Facility  
10000 Aerospace Place  
Seabrook, MD 20706



**SECTION F OF NAS5-99124**

**DELIVERIES OR PERFORMANCE**

Orbital Sciences Corporation  
7500 Greenway Center Drive  
Suite 700  
Greenbelt, MD 20770

Orbital Sciences Corporation  
Beltsville Assembly Facility  
5011 Herzel Place  
Beltsville, MD 20705

(End of clause)

## SECTION G OF NAS5-99124

### CONTRACT ADMINISTRATION DATA

#### G.1 LISTING OF SECTION G CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated into this section by reference:

<u>Clause No.</u>	<u>Title</u>
1852.242-71	TRAVEL OUTSIDE OF THE UNITED STATES (DEC 1988)
1852.242-73	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING (JUL 1997)
1852.245-70	CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED EQUIPMENT (JUL 1997)

(End of text)

#### G.2 SUBMISSION OF VOUCHERS FOR PAYMENT (18-52.216-87) (MAR 1998)

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to the number of this contract.

(b) (1) If the contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher and one copy should be submitted to:

Goddard Space Flight Center  
Accounts Payable Section, Code 151.3A  
Greenbelt, Maryland 20771

(2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment subject to final audit.

(3) Copies of vouchers should be submitted as may be directed by the Contracting Officer.

(c) If the contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the contractor shall prepare and submit vouchers as follows:

(1) One original and one copy Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to the Auditor.

SECTION G OF NAS5-99124

CONTRACT ADMINISTRATION DATA

DCAA Columbia Branch Office  
10025 Governor Warfield Parkway  
Columbia, MD 21044-3329

(2) (Reserved)

(3) The Contracting Officer may designate other recipients as required.

(d) Public vouchers for payment of fee shall be prepared similarly to the procedures in paragraphs (b) or (c) of this clause, whichever is applicable, and be forwarded to the Contracting Officer.

This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

(e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of clause)

G.3 CONTRACTOR USE OF GSFC LIBRARY (GSFC 52.245-90) (AUG 1993)

The Contractor's professional employees performing work under this contract are granted borrowing privileges at the Goddard Space Flight Center (GSFC) Library.

(a) The Contractor shall establish procedures to account for borrowed materials and to ensure their timely return. "Timely return" means prior to the expiration of the borrowing period, prior to the termination of employment of the particular employee, or prior to the expiration of this contract, whichever comes first.

(b) The Contractor shall initiate borrowing privileges for its employees by contacting the GSFC Librarian. The Librarian will require the Contractor to provide the name and title of the company official responsible for ensuring compliance with (a) above. The responsible official will be required to indicate the level of control for the issuance of Library charge plates and whether the countersignature of the responsible company official will be required on Goddard Library Card Applications. The GSFC

## SECTION G OF NAS5-99124

### CONTRACT ADMINISTRATION DATA

Librarian may impose additional information requirements if Library privileges are requested for employees that do not have permanent GSFC badges.

(c) The Contractor shall be responsible for all items lost, destroyed or not returned. Such items shall be immediately replaced by the Contractor at no cost to the Government. The GSFC Librarian may revoke library privileges at any time during the performance of the contract if the Contractor fails to comply with this clause or is experiencing an inordinate amount of loss or destruction of library materials. Discontinuance of library privileges shall not entitle the Contractor to an increase in the cost or price for contract performance or to any other adjustment to the contract.

(End of clause)

#### G.4 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (18-52.227-72) (JULY 1997)

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights--Retention by the Contractor (Short Form)", whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

<u>Title</u>	<u>Office Code</u>	<u>Address (including zip code)</u>
New Technology Representative	750.1	Goddard Space Flight Center Greenbelt, MD 20771
Patent Representative	750.2	Goddard Space Flight Center Greenbelt, MD 20771

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquiries or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or

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### CONTRACT ADMINISTRATION DATA

"Patent Rights--Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in 1827.375-370 of the NASA FAR Supplement.

(End of clause)

#### G.5 REPAIR OR REPLACEMENT OF GOVERNMENT PROPERTY--SPECIAL CONDITIONS (GSFC 52.245-92) (JUL 1993)

(a) Government property (plant equipment) categorized as facilities (defined in FAR 45.101) has been provided for the performance of this contract in accordance with FAR clause 52.245-5, "Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour)".

(b) Except as specified in paragraph (e) below, the Government will not authorize the replacement of any defective Government property as a direct reimbursable cost under this contract. Replacement shall be at no cost to the Government except as may be permitted by FAR 31.205-11, "Depreciation." However, the Government may authorize and reimburse the repair of defective Government property as stated in paragraph (c). If repair is not approved by the Contracting Officer, the Contractor agrees to replace any defective Government property with property owned or leased by the Contractor. However, such Contractor property need not be identical to the replaced property. Further, replacement may be waived by the Contracting Officer provided the Contractor submits a written request and demonstrates to the satisfaction of the Contracting Officer that the capability to perform the contract in an acceptable and efficient manner is not degraded.

(c) The Government may reimburse the reasonable direct cost for the repair of any Government property for which repair is determined to be an acceptable alternative. In accordance with FAR clause 52.245-5, the Contractor is required to have an approved maintenance/repair program for Government Property. The criteria in this program shall be used to determine when the contractor is required to request approval from the Contracting Officer for repair or replacement of Government property. However, in the absence of a Government approved maintenance/repair program, the Contractor must submit each repair request to the Contracting Officer. When the maintenance program requires the Contractor to inform the Contracting Officer

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### CONTRACT ADMINISTRATION DATA

of the need for a repair/replacement decision, the Contractor shall notify the Contracting Officer, in writing, and provide a "not to exceed" dollar amount for the repair of the property and a rationale as to why repair is the best alternative considering the age of the property, the nature of the defect(s), and the criticality of the property to the accomplishment of the requirements of the contract. If the Contracting Officer agrees that the property is still needed for contract performance and that repair is an acceptable alternative, the Contracting Officer may authorize the repair. If the Contracting Officer considers that repair is not an acceptable alternative, the Contracting Officer shall notify the Contractor and the replacement equipment or needed equivalent capability shall be provided by the Contractor in accordance with paragraph (b) above. This decision by the Contracting Officer shall not be subject to the Disputes clause of this contract.

(d) In the event that the Contractor is not selected in a subsequent recompetition of this requirement and the facility items replaced as contractor property are not needed for any other purpose, the Contractor is encouraged to offer to sell to the successor contractor any facility items that the successor contractor chooses to buy, at a fair and reasonable price.

(e) This clause shall not apply to the following items:

None

(End of clause)

#### G.6 CONTRACTOR ACQUIRED GOVERNMENT PROPERTY (GSFC 52.245-93) (OCT 1988)

Before the Contractor purchases a piece of controlled equipment (as identified in NHB 4200.1D, paragraph 3.101), the Contractor shall submit a DD Form 1419, DoD Industrial Plant Equipment Requisition, through the Contracting Officer, to the GSFC Reutilization Coordinator, Code 235.2, for the prescreening of the NASA Equipment Management System (NEMS) records to determine the availability of candidate equipment which may satisfy the requirement and thus avoid a new acquisition.

Following the purchase of any controlled equipment, the Contractor shall submit a GSFC Form 20-4, Shipping Document, or by other means acceptable to the GSFC Supply and Equipment

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Management Officer, Code 235.1, transferring that equipment to the Government, to the GSFC Supply and Equipment Management Officer, Code 235.1, with a copy to the GSFC Property Accountant, Code 151.4A within 5 working days. The GSFC Form 20-4 or other form, must contain all of the data elements identified necessary to establish accountability, including both the contract number and the Contractor's purchase order number under which the equipment was purchased. Submission of this form does not negate the requirement for subcontract notification and/or consent as specified in the Subcontracts clause or elsewhere in this contract.

If the Contractor maintains a stock inventory with a minimum average value of \$75,000, the Contractor shall comply with NHB 4100.1B, including submission of a NASA Form 1489, Semi-Annual Analysis of Inventory Report, and a NASA Form 1324, Semi-Annual Report of Supply and Equipment Management Operations. Both reports shall be submitted within 5 working days after the March 31 and September 30 reporting period each year to the Supply and Equipment Management Office, Code 235.1, with a copy to the Contracting Officer.

The Contractor shall submit listings of all Contractor-acquired property, acquired during the reporting period under the contract, suitable for establishing accountable records for all such property received, on a quarterly basis within 30 calendar days after the end of each calendar year quarter; i.e., January 30, April 30, July 30, and October 30, to the Contracting Officer, and the Supply and Equipment Management Officer, Code 235.1. For controlled equipment, the listings shall include item description, manufacturer, model, serial number, cost, location of the items, and GSFC property number. For all other acquisitions, the listings shall include item description, quantity, cost, and location of the items. Controlled equipment previously reported on GSFC Form 20-4's, or other forms, and materials included in NASA Form 1489 shall be included in the quarterly reports. Negative reports shall be submitted, if applicable.

(End of clause)

G.7 PROPERTY CLAUSE APPLICABILITY--ON-SITE AND OFF-SITE  
(GSFC 52.245-96) (JUN 1992)

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(a) Performance of this contract requires that contractor personnel and any furnished and/or acquired government property be located at both Government controlled and managed premises (on-site) and at contractor controlled and managed premises (off-site). The requirements for control and accountability of government property differ depending upon the location of the property. The applicability of the clauses in this contract to on-site and to off-site locations is indicated below.

(b) Clauses applicable to both on-site and off-site locations.

FAR clause 52.245-5, "Government Property (Cost Reimbursement, Time-and-Material, or Labor-Hour Contracts)" except that paragraph (e) does not apply to on-site locations.

NASA FAR Supplement clause 18-52.245-70, "Contractor Requests For Government-Owned Equipment".

GSFC clause 52.245-97, "Facilities to be Acquired".

(c) Clauses applicable only to off-site locations.

NASA FAR Supplement clause 18-52.245-73, "Financial Reporting of Government-Owned/Contractor-Held Property"

NASA FAR Supplement clause 18-52.245-76, "List of Government-Furnished Property", if included.

(d) Clauses applicable only to on-site locations.

NASA FAR Supplement clause 18-52.245-71, "Installation-Accountable Government Property (Alternate I)".

NASA FAR Supplement clause 18-52.245-77, "List of Installation Accountable Property and Services".

GSFC clause 52.245-93, "Contractor Acquired Government Property"

(End of clause)

G.8 FACILITIES TO BE ACQUIRED (GSFC 52.245-97) (FEB 1991)

In accordance with FAR clause 52.244-2, "Subcontracts Under Cost-Reimbursement and Letter Contracts--Alternate I" of this contract, the Contractor shall obtain the approval of the



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Contracting Officer prior to the acquisition of any "facilities" as defined in the Federal Acquisition Regulation (FAR) 45.301. The policy on providing facilities to contractors is contained in FAR 45.302-1 and NASA FAR Supplement 18-45.302-1.

(End of clause)

#### G.9 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (1852.245-71) (JUL 1997)--ALTERNATE I (MAR 1989)

(a) The Government property described in the clause at 1852.245-77, List of Installation-Provided Property and Services, shall be made available to the contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property. Under this clause, the Government retains accountability for, and title to, the property, and the contractor assumes the following user responsibilities: customary user care, cleaning, maintenance, and replacement.

The contractor shall establish and adhere to a system of written procedures for compliance with these user responsibilities. Such procedures must include holding employees liable, when appropriate, for loss, damage, or destruction of Government property.

(b) (1) The official accountable record keeping, physical inventory, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:

(i) The contractor's purchase order shall require the vendor to deliver the property to the installation central receiving area;

(ii) The contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area;

(iii) The contractor shall establish a record of the property as required by FAR 45.5 and 1845.5 and furnish to the

## SECTION G OF NAS5-99124

### CONTRACT ADMINISTRATION DATA

Industrial Property Officer a DD Form 1149 Requisition and Invoice/Shipping Document (or installation equivalent) to transfer accountability to the Government within 5 working days after receipt of the property by the contractor. The contractor is accountable for all contractor-acquired property until the property is transferred to the Government's accountability.

(iv) Contractor use of Government property at an off-site location and off-site subcontractor use require advance approval of the contracting officer and notification of the SEMO. The contractor shall assume accountability and financial reporting responsibility for such property. The contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR Part 45.5 until its return to the installation.

(2) After transfer of accountability to the Government, the contractor shall continue to maintain such internal records as are necessary to execute the user responsibilities identified in paragraph (a) and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the contracting officer.

(3) The contractor shall not utilize the installation's central receiving facility for receipt of Contractor-acquired property. However, the Contractor shall provide listings suitable for establishing accountable records of all such property received, on a quarterly basis, to the Contracting Officer and the Supply and Equipment Management Officer.

(End of clause)

#### G.10 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (1852.245-73) (SEP 1996)

(a) The Contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance with 1845.505-14, the instructions on the form, and subpart 1845-71. Subcontractor use of NF 1018 is not required by this clause; however, the contractor shall include data on property in the possession of subcontractors in the annual NF 1018.

(b) If administration of this contract has been delegated to the

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### CONTRACT ADMINISTRATION DATA

Department of Defense, the original of NASA Form 1018 shall be submitted to the Goddard Space Flight Center (GSFC), Financial Management Division, Code 151.4, Greenbelt, MD 20771 and three copies shall be sent concurrently through the DOD Property Administrator to the GSFC Supply and Contract Property Team identified below. If the contract is administered by NASA, the original of NF 1018 shall be submitted to the GSFC Financial Management Division, Code 151.4 and three copies shall be sent concurrently and directly to the GSFC Supply and Contract Property Team, Code 235.

(c) The annual reporting period shall be from October 1 of each year to September 30 of the following year. The report shall be submitted in time to be received by October 31. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 31. The Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set-aside. If the Contractor fails to submit annual NF 1018 reports when due, such reserve shall be withheld until the Contracting Officer has determined that the required reports have been received by the Government. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(d) A final report is required within 30 days after disposition of all property subject to reporting when the contract performance period is complete.

(End of clause)

#### G.11 LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES (1852.245-77) (JUL 1997)

In accordance with the clause at 1852.245-71, Installation-Accountable Government Property, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer.

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(a) Office space, work area space, and utilities. Government telephones are available for official purposes only; pay telephones are available for contractor employees for unofficial calls.

(b) General- and special-purpose equipment, including office furniture.

(1) Equipment to be made available is listed in Attachment E. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.

(2) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records as required by the clause at 1852.245-71, Installation-Accountable Government Property.

(3) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.

(c) Supplies from stores stock.

(d) Publications and blank forms stocked by the installation.

(e) Safety and fire protection for Contractor personnel and facilities.

(f) Installation service facilities: Goddard Library.

(g) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

(h) Cafeteria privileges for Contractor employees during normal operating hours.

(i) Building maintenance for facilities occupied by Contractor personnel.

(j) Moving and hauling for office moves, movement of large

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**CONTRACT ADMINISTRATION DATA**

equipment, and delivery of supplies. Moving services shall be provided on-site, as approved by the Contracting Officer.

(k) The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, Installation-Accountable Government Property.

(End of clause)

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

#### H.1 LIST OF SECTION H CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated into this section by reference:

<u>Clause No.</u>	<u>Title</u>
1852.208-81	RESTRICTIONS ON PRINTING AND DUPLICATING (AUG 1993)
1852.223-70	SAFETY AND HEALTH (MAR 1997)
1852.228-72	CROSS WAIVER OF LIABILITY FOR SPACE SHUTTLE SERVICES (SEPT 1993)
1852.228-76	CROSS WAIVER OF LIABILITY FOR SPACE STATION ACTIVITIES (DEC 1994) (Per NFS 1828.371, application of this clause shall be designated on the individual task order)
1852.242-72	OBSERVANCE OF LEGAL HOLIDAYS (AUG 1992)--ALTERNATE II (SEP 1989)
1852.244-70	GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM (APRIL 1985)

(End of By Reference Section)

#### H.2 LIMITATION OF FUTURE CONTRACTING (18-52.209-71) (DEC 1988)

(a) The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest. Accordingly, the attention of prospective offerors is invited to FAR Subpart 9.5-Organizational Conflicts of Interest.

(b) The nature of this conflict, in general terms, is that:

1. The contractor may be tasked to develop statements of work and/or specifications, which may be used in subsequent, competitive acquisitions, and

2. The contractor may require access to other NASA contractor data.

(c) The restrictions upon future contracting are as follows:

- (1) If the Contractor, under the terms of this contract, or through the performance of tasks pursuant to this contract, is required to develop specifications or statements of work and such

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

specifications or statements of work are to be incorporated into a solicitation, the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing NASA contract. This restriction shall remain in effect for a reasonable time as agreed to by the Contracting Officer and the Contractor sufficient to avoid unfair competitive advantage or potential bias (this time shall in no case be less than the duration of the initial production contract). NASA shall not unilaterally require the Contractor to prepare such specifications or statements of work under this contract.

(2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as these data remain proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not use them to compete with those other companies.

(End of clause)

#### H.3 CONFLICT AVOIDANCE PLAN AND NON-DISCLOSURE AGREEMENTS

The Contractor shall comply with the conflict avoidance procedures detailed in its Conflict Avoidance Plan, Attachment J to the contract.

The Contractor shall prepare and submit to the Contracting Officer non-disclosure agreements from its employees as required in the Contractor's Conflict Avoidance Plan.

This clause shall be incorporated into all first-tier subcontracts issued under the contract.

(End of text)

#### H.4 HANDLING OF DATA (GSFC 52.203-90) (JAN 1995)

(a) In the performance of this contract, it is anticipated that the Contractor may have access to, be furnished, or use the following categories of data (which may be technical data, computer software, administrative, management information, or financial, including cost or pricing):

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

(1) Data of third parties which the Government has agreed to handle under protective arrangements; and

(2) Government data, the use and dissemination of which, the Government intends to control.

(b) In order to protect the interests of the Government and the owners, licensors and licensees of such data, the Contractor agrees, with respect to any such third party or Government data that is either marked with a restrictive legend, specifically identified in this contract, or otherwise identified in writing by the Contracting Officer as being subject to this clause, to:

(1) Use, disclose, and reproduce such data only to the extent necessary to perform the work required under this contract;

(2) Allow access to such data only to those of its employees that require access for their performance under this contract;

(3) Preclude access and disclosure of such data outside the Contractor's organization; and

(4) Return or dispose of such data, as the Contracting Officer may direct, when the data is no longer needed for contract performance.

(c) The Contractor agrees to inform and instruct its employees of its and their obligations under this clause and to appropriately bind its employees contractually to comply with the access, use, disclosure, and reproduction provisions of this clause.

(d) In the event that data includes a legend that the Contractor deems to be ambiguous or unauthorized, the Contractor may inform the Contracting Officer of such condition. Notwithstanding such a legend, as long as such legend provides an indication that a restriction on use or disclosure was intended, the Contractor shall treat such data pursuant to the requirements of this clause unless otherwise directed, in writing, by the Contracting Officer.

(e) Notwithstanding the above, the Contractor shall not be restricted in use, disclosure, and reproduction of any data that:

(1) Is, or becomes, generally available or public knowledge without breach of this clause by the Contractor;



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### SPECIAL CONTRACT REQUIREMENTS

(2) Is known to, in the possession of, or is developed by the Contractor independently of any disclosure of, or without reference to, proprietary, restricted, confidential, or otherwise protectible data under this clause;

(3) Is rightfully received by the Contractor from a third party without restriction;

(4) Or is required to be produced by the Contractor pursuant to a court order or other Government action.

If the Contractor believes that any of these events or conditions that remove restrictions on the use, disclosure, and reproduction of the data apply, the Contractor shall promptly notify the Contracting Officer of such belief prior to acting on such belief, and, in any event, shall give notice to the Contracting Officer prior to any unrestricted use, disclosure, or reproduction of such data.

(End of clause)

#### H.5 MONTHLY AND QUARTERLY FINANCIAL MANAGEMENT REPORTS

The Contractor shall submit NASA Financial Management Reports 533M and 533Q in hard copy and electronic format as detailed in the Contract Analysis and Tracking System (CATS)\*, as required by the NASA Contractor Financial Management Reporting clause of this contract. The hard copy reports shall contain the categories as designated in Attachment C of this contract. The electronic format shall contain the categories as designated in Attachment D of this contract.

The Contracting Officer may direct changes in reporting requirements contained in Attachment C and Attachment D. These changes shall be in writing, and will constitute the basis for an equitable adjustment.

Hard copies of the reports shall be submitted to:

<u>Copies</u>	<u>Addressee</u>	<u>Code or Attention</u>
1	Contracting Officer	215
1	Contracting Officer's Technical Representative	568

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### SPECIAL CONTRACT REQUIREMENTS

1	Associate COTR	560
1	Assistant Technical Representative	See Task Order
1	Financial Manager	501
1	Cognizant activity (when contract administration is delegated)	

\* CATS reporting shall be submitted only to the Associate COTR, Code 560. The Workforce Report and ODC Report shall be provided only to the Associate COTR and Contracting Officer, Code 215.

(End of text)

#### H.6 ONSITE CONTRACTOR PERSONNEL REQUIREMENTS AND REPORT (GSFC 52.204-99) (OCT 1988)

The Goddard Space Flight Center (GSFC) maintains a Locator and Information Services Tracking System (LISTS) which contains work and home data about the GSFC's civil service, contractor, and tenant workforces.

The Contractor shall provide certain data regarding the Contractor's onsite workforce to enable the LISTS to be maintained in a current status.

The Contractor shall report additions in its personnel roster, as they take place, by GSFC Form 24-27, "LISTS Data and Badge and Decal Information". Instructions for completing GSFC Form 24-27 are contained in GSFC Form 24-27a. These forms are available from GSFC store stock. The form(s) shall be submitted to the Contracting Officer's Technical Representative (COTR), Code 560. The COTR will process the form(s) with the LISTS Monitor (LM) assigned to the COTR's Division and return the approved form(s) to the Contractor. The Contractor shall furnish a copy of the approved form(s) to the Contracting Officer and provide the approved form(s) to the GSFC Security Branch/Identification Section, Code 205.1 to obtain a motor vehicle decal and a badge for the Contractor employee(s).

The Contractor shall submit monthly onsite personnel reports containing data under two categories:

- o For the current onsite workforce, and others requiring access

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### SPECIAL CONTRACT REQUIREMENTS

to GSFC, the name(s), principal building and room location(s), telephone extension(s), mail code, organizational code(s) of the GSFC organization(s) being supported, offsite location and phone number, if applicable, and comments (if desired).

o A list of Contractor employees who have joined or left the employment of the Contractor or moved off-site to perform GSFC contracted work during that same monthly reporting period, indicating which have moved off-site and/or no longer require access to GSFC and which have joined or left employment.

Whenever possible, the Contractor should use a copy of a LISTS report, which will be provided by the LISTS Manager, Code 201, for the monthly onsite personnel reports. The Contractor shall annotate this provided report to correct any discrepancies noted. A copy the onsite personnel report shall be submitted by the 10th calendar day of the month following the month being reported to the COTR, the Contracting Officer, the GSFC Security Branch, Code 205.1, and to the LISTS Manager, Code 201.

The Contractor shall update the LISTS due to any changes in locator information noted on the Contractor submitted monthly reports by completing that portion of the GSFC Form 24-27 which needs to be updated including the Goddard Identification Number (GIN) provided on the LISTS report and submit the updated GSFC Form 24-27 to the LISTS Monitor, Code 560.

The Contractor shall ensure that all Contractor personnel working onsite at, or requiring access to the GSFC, who leave its employment or change their work location to off-site or no longer require access to GSFC, process out through the GSFC Security Branch/Identification Section, Code 205.1. Such employees shall return all GSFC property, including identification badges, mission badges, vehicle decals, temporary passes, and keys. If the employee leaves or is terminated without "prior notice"; i.e., "quits" or is "involuntarily" terminated, the Contractor shall ensure that all such Government property associated with each of its employees is returned to the Security Branch/Identification Section within 30 days of the employee's departure.

The Contractor may contact the LISTS Manager at the Institutional Support Branch, Code 201, 286-2306, for assistance regarding the LISTS System.

(End of clause)

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### SPECIAL CONTRACT REQUIREMENTS

#### H.7 GOVERNMENT PREMISES--PERSONNEL ACCESS AND COMPLIANCE WITH PROCEDURES (GSFC 52.211-95) (JUN 1997)

(a) Access. A portion or all of the work by this contract must be performed at the Goddard Space Flight Center (GSFC) or other NASA installations or sites. The right of ingress and egress to the Government site for Contractor personnel shall be made available as required.

(b) Compliance with procedures. While on Government premises, the Contractor shall comply with established requirements governing the conduct of personnel and the operation of the facility. These requirements are set forth in NASA-wide or local installation management instructions, handbooks, or announcements. The following cover many of the requirements that must be met by contractors utilizing GSFC facilities:

GMI 1040.5	Emergency Management Program
GMI 1040.6	Emergency Management Plan
GMI 1152.9	Facilities Coordination Committee
GHB 1600.1	Security Manual
GMI 1700.2	GSFC Health and Safety Program
GMI 1772.1	Center Smoking Policy
GMI 1780.1	Confined Space Policy
GMI 1790.1	Chemical Hygiene Plan
GHB 2540.2	Administrative Communications Handbook
GMI 5104.7	Policy Concerning Contracts Requiring Onsite Performance and the Administration Thereof
GMI 8821.1	Facilities Configuration Management
GMI 8800.2	Goddard Space Flight Center Environmental Handbook
GMI 8840.1	Paper Recycling Program

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

Center Announcement No. 90-59--Contractor Business Use of Official Mail and of the Mail Services Center

Copies of the current issuances may be obtained from the Contracting Officer. The above list may be modified by the Contracting Officer to include additional issuances pertaining to the conduct of personnel and the operation of the facility.

(c) Telephone usage certification. If the installation provided property and services listed in NASA FAR Supplement clause 18-52.245-77 includes the use of telephones, the Contractor shall provide an annual certification that all such usage was in accordance with GHB 2540.2, "GSFC Administrative Communications". This certification shall be made in January of each year covering the preceding calendar year and at the conclusion of the Contractor's efforts onsite at the GSFC. The certification shall be submitted to the Contracting Officer with a copy to the Head of the Customer Engineering Branch, Code 242.

(End of clause)

#### H.8 SAFETY AND HEALTH--ADDITIONAL REQUIREMENTS

a. Purpose. This clause establishes certain additional safety and health requirements as contemplated by NASA FAR Supplement (NFS) clause 18-52.223-70, "Safety and Health", of this contract.

b. Mishap reporting and investigation. The Contractor shall comply with NASA Management Instruction 8621.1G, "Mishap Reporting and Investigation". The required notification and reporting of mishaps shall be to the Goddard Space Flight Center Safety and Health Branch, Code 205.2, and to the Contracting Officer.

c. Other safety and health requirements. The Contractor shall promptly notify the Contracting Officer in writing, with a copy to the Safety and Health Branch, Code 205.2, of the nonconformance of any Government-furnished property, including any installation provided Government property, with the requirements of this clause.

In addition to compliance with all Federal, state, and local laws as required by paragraph (a) of NFS clause 18-52.223-70, the Contractor shall comply with the following:

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SPECIAL CONTRACT REQUIREMENTS

NONE

d. Safety and health plan.

The Contractor shall implement the safety and health requirements of this contract in accordance with the Safety and Health Plan incorporated in Section J of this contract.

The Contractor shall submit a Safety and Health Plan to the Contracting Officer with its proposal submission. Upon approval by the Contracting Officer, the Plan will become part of this contract. The Contractor shall implement the safety and health requirements of this contract in accordance with the Plan.

(End of text)

H.9 UNAUTHORIZED PURCHASES (GSFC 52.244-91) (OCT 1988)

The Contractor shall not purchase any property as a direct item of cost under this contract unless necessary for the performance of the contract and/or authorized under the terms of the contract or approved or directed by the Contracting Officer.

(End of clause)

H.10 SUBCONTRACTS--CONSENT AT TIME OF AWARD (GSFC 52.244-93)  
(MAY 1991)

(a) Notification and Consent

For the purposes of the Subcontracts clause of this contract, the notification and consent requirements for the following subcontracts have been satisfied except as may be limited in paragraph (b) below:

Orbital Sciences Corporation  
Raytheon/STX Corporation

(b) Limitations

The above consent does not satisfy the notification and consent requirements of the Subcontracts clause for any subcontract changes or modifications for which notification and consent is

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

required by the Subcontracts clause. Other limitations are as follows:

#### CONSULTANT AGREEMENTS

(End of clause)

#### H.11 CONTRACTOR'S POLICIES AND PROCEDURES (GSFC 52.231-98) (OCT 1988)

In the event that during the term of this contract the Contractor shall make modification(s) and/or change(s) to any of the below-listed policies and procedures, the Contractor shall furnish copies thereof with explanatory comments to the Contracting Officer.

1. Vacations
2. Holidays
3. Sick Leave
4. Other Leave
5. Bonus Plans
6. Incentive Plans
7. Location Allowance
8. Per Diem, Subsistence and Travel Allowances
9. Severance Pay
10. Overtime and Shift Premium Payments
11. Relocation Allowances

(End of clause)

#### H.12 PHASE-IN PERIOD

The Government contemplates that the Contractor shall assume full contract responsibility for all of the requirements of this contract no later than January 18, 1999. During the 30-day phase-in period, the Contractor shall accomplish phase-in and training of Contractor personnel as required for the assumption of full contract responsibility. The Contractor shall not charge the Government nor be reimbursed for costs incurred for phase-in and training during said phase-in period under this contract.

**NOTE:** This clause cannot be construed as pre-contract costs. The Government contemplates that if an Offeror is awarded this contract, a separate fixed price purchase order (not-to-exceed

## SECTION H OF NAS5-99124

### SPECIAL CONTRACT REQUIREMENTS

\$100,000) will be awarded for this phase-in period.

(End of text)

#### H.13 KEY PERSONNEL AND FACILITIES (18-52.235-71) (MAR 1989)

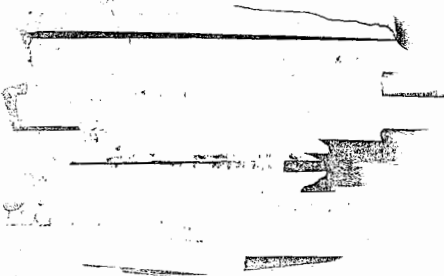
(a) The personnel and/or facilities listed below (or specified in the contract schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

(b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided, that the Contracting Officer may ratify in writing the change, and that ratification shall constitute Contracting Officer's consent required by this clause.

(c) The list of personnel and/or facilities (shown below or as specified in the contract schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

#### Position/Title

#### Individual



Program Manager  
Multidiscipline Eng. Group Manager  
Systems Eng. & Integration Group Manager  
Software Engineering Group Manager  
Senior Electrical Engineer  
Senior Systems Engineer  
Senior Software Engineer  
Performance Assurance Manager

(End of clause)

#### H.14 TASK ORDERING PROCEDURE (18-52.216-80) (OCT 1996)

(a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to



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### SPECIAL CONTRACT REQUIREMENTS

perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under the contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.

(b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:

- (1) A functional description of the work identifying the objectives or results desired from the contemplated task order.
- (2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.
- (3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.

(c) Within 14 calendar days, or another time if mutually agreed to by the parties, after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.

(d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:

- (1) Date of the order.
- (2) Contract number and order number.
- (3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.
- (4) Performance standards, and where appropriate, quality assurance standards.
- (5) Maximum dollar amount authorized (cost and fee or price).
- (6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.
- (7) Delivery/performance schedule including start and end dates.
- (8) If contract funding is by individual task order,

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### SPECIAL CONTRACT REQUIREMENTS

accounting and appropriation data.

(e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 3 working days after receipt of the task order.

(f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.

(g) The Contracting Officer may amend tasks in the same manner in which they were issued.

(h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

(End of clause)

#### H.15 SUPPLEMENTAL TASK ORDER TARGET COST PROCEDURE

When the Contracting Officer issues the task order to the Contractor in accordance with Clause H.14 - Task Ordering Procedure, the Contractor shall prepare its estimate of the labor hours, labor categories, indirect costs, and other direct costs required to perform the task order requirements. When computing and negotiating its proposed target cost for performing the task order, the Contractor shall only use the target labor cost rates and target indirect cost rates from the applicable Attachment I matrices, using the rates for the appropriate years within the task order period of performance.

The Contractor agrees that only those appropriate target labor cost rates and target indirect cost rates found in the applicable Attachment I matrices can be used in computing and negotiating the target costs for all task orders issued in accordance with Clause H.14, Task Ordering Procedure. Additionally, the Contractor agrees that only those appropriate incentive fee structures in the Attachment I, task fee matrix can be used to establish the incentive fee structure for each task order issued in accordance with Clause H.14 - Task Ordering Procedure.

The Contractor's proposed approach/pricing of the representative task orders as set forth in its proposal for award of this

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### SPECIAL CONTRACT REQUIREMENTS

contract shall be used as a reference by the Contracting Officer in negotiating task orders with the Contractor which are issued under Clause H.14, Task Ordering Procedure, but only to the extent portions of a representative task order are relevant to portions of a task actually issued.

(End of text)

#### H.16 SUPPLEMENTAL TASK ORDER FEE STRUCTURE PROCEDURE

When the Contracting Officer issues a request for a task plan to the Contractor in accordance with Clause H.14, Task Ordering Procedure, the Contractor shall include in its task plan the total amount of any incentive fee it proposes under its task plan. The Contracting Officer shall specify one of the fee structure arrangements in the Fee Matrix of Attachment I.

The Contractor agrees that the Government shall, in its sole discretion, determine the fee structure in Attachment I, to be included in any Task Order. The fee matrix contained in Attachment I will be used to compute the incentive fees for all task orders for all five (5) contract years.

The Contracting Officer is hereby authorized to request task plans and to issue task orders via facsimile or by electronic commerce.

(End of text)

#### H.17 APPLICATION OF NASA's CONSOLIDATED CONTRACTING INITIATIVE (CCI)

Consistent with NASA's CCI, use of this contract by other NASA Centers will be permitted during its period of performance. Task orders for such use will only be issued by the NASA Goddard Space Flight Center Contracting Officer of this contract in accordance with Clause H.14.

(End of text)

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### SPECIAL CONTRACT REQUIREMENTS

#### H.18 YEAR 2000 COMPLIANCE (MAY 1998) (Procurement Information Circular 98-8)

(a) Definition: "Year 2000 compliant", as used in this clause, means that the information technology (hardware, software and firmware, including embedded systems or any other electro-mechanical or processor-based systems used in accordance with its associated documentation) accurately processes date and date-related data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000 and leap year calculations, to the extent that other information technology, used in combination with the information technology being acquired, properly exchanges date and date-related data with it.

(b) Any information technology provided, operated and/or maintained under this contract is required to be Year 2000 compliant. To ensure this result, the Contractor shall provide documentation describing how the IT items or services demonstrate Year 2000 compliance, consisting of:

#### **To Be Designated in the Task Order**

(c) The Contractor warrants that any IT items or services provided under this contract that involve the processing of date and date-related data are Year 2000 compliant. If the contract requires that specific listed products must perform as a system in accordance with the foregoing warranty, then that warranty shall apply to those listed products as a system.

(d) The remedies available under this warranty shall include repair or replacement, at no additional cost to the Government, of any provided items or services whose non-compliance is discovered and made known to the Contractor in writing within (To Be Designated in the Task Order--But not less than 90 days) after acceptance. In addition, all other the terms and limitations of the Contractor's standard commercial warranty or warranties shall be available to the Government for the IT items or services acquired under this contract. Nothing in this warranty shall be construed to limit any rights or remedies the Government may otherwise have under this contract with respect to defects other than Year 2000 performance.

(End of clause)

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**SPECIAL CONTRACT REQUIREMENTS**

**H.19 APPLICATION OF THE INCENTIVE FEE CLAUSE**

Paragraph (e) of Clause 52.216-10, Incentive Fee, applies only to the task-level cost incentive fee area.

Application of all other incentive fees is as detailed in Attachment K, Incentive Fee Plan, of the contract.

(End of text)

## SECTION I OF NAS5-99124

### CONTRACT CLAUSES

#### I.1 LIST OF SECTION I CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated by reference in accordance with Federal Acquisition Regulation (FAR) 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988):

<u>Clause No.</u>	<u>Title</u>
52.202-1	DEFINITIONS (OCT 1995)
52.203-3	GRATUITIES (APR 1984)
52.203-5	COVENANT AGAINST CONTINGENT FEES (APR 1984)
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)
52.203-7	ANTI-KICKBACK PROCEDURES (JUL 1995)
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)
52.204-4	PRINTING/COPYING DOUBLE SIDED ON RECYCLED PAPER (JUN 1996)
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)
52.211-15	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEPT 1990)
52.215-2	AUDIT AND RECORDS--NEGOTIATION (AUG 1996)
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT (OCT 1997)
52.215-11	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
52.215-13	SUBCONTRACTOR COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
52.215-14	INTEGRITY OF UNIT PRICES (OCT 1997)
52.215-15	TERMINATION OF DEFINED BENEFIT PENSION PLANS (OCT 1997)
52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (OCT 1997)
52.215-19	NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)
52.215-21	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
52.216-7	ALLOWABLE COST AND PAYMENT (APR 1998)

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### CONTRACT CLAUSES

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE  
(JUL 1996)

52.219-8 UTILIZATION OF SMALL, SMALL DISADVANTAGED AND  
WOMEN-OWNED SMALL BUSINESS CONCERNS (JUN 1997)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--  
OVERTIME COMPENSATION (JUL 1995)

52.222-20 WALSH-HEALEY PUBLIC CONTRACTS ACT (DEC 1996)

52.222-26 EQUAL OPPORTUNITY (APR 1984)

52.222-28 EQUAL OPPORTUNITY PRE-AWARD CLEARANCE OF  
SUBCONTRACTS (APR 1984) (Deviation) (Revise \$1  
million to read \$10 million)

52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND  
VETERANS OF THE VIETNAM ERA (APR 1998)

52.222-36 AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS  
(APR 1984)

52.222-37 EMPLOYMENT REPORTS ON DISABLED VETERANS AND  
VETERANS OF THE VIETNAM ERA (APR 1998)

52.222-41 SERVICE CONTRACT ACT OF 1965, AS AMENDED  
(MAY 1989)

52.223-2 CLEAN AIR AND WATER (APR 1984)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION  
(APR 1998)

52.223-6 DRUG FREE WORK PLACE (JAN 1997)

52.223-10 WASTE REDUCTION PROGRAM (OCT 1997)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 1996)

52.225-3 BUY AMERICAN ACT--SUPPLIES (JAN 1994)

52.225-10 DUTY-FREE ENTRY (APR 1984)

52.225-11 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES  
(OCT 1996)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)--ALTERNATE I  
(APR 1984)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPY-  
RIGHT INFRINGEMENT (AUG 1996)

52.227-11 PATENT RIGHTS--RETENTION BY CONTRACTOR (SHORT  
FORM) (JUN 1997) as modified by NASA FAR  
Supplement 18-52.227-11

52.227-14 RIGHTS IN DATA-GENERAL (JUN 1987) as modified by  
NASA FAR Supplement 18-52.227-14, Rights In Data--  
General

52.228-7 INSURANCE--LIABILITY TO THIRD PERSONS (MAR 1996)

52.230-2 COST ACCOUNTING STANDARDS (APR 1996)

52.230-6 ADMINISTRATION OF COST ACCOUNTING STANDARDS  
(APR 1996)

52.232-17 INTEREST (JUN 1996)

52.232-22 LIMITATION OF FUNDS (APR 1984)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

## SECTION I OF NAS5-99124

### CONTRACT CLAUSES

52.232-25 PROMPT PAYMENT (JUN 1997) (b) (2), second sentence shall have a 30 day period for any financing payments.

52.232-33 MANDATORY INFORMATION FOR ELECTRONIC FUNDS TRANSFER PAYMENT (AUG 1996)

52.233-1 DISPUTES (OCT 1995)

52.233-3 PROTEST AFTER AWARD (AUG 1996)--ALTERNATE I (JUN 1985)

52.237-2 PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION (APR 1984)

52.237-3 CONTINUITY OF SERVICES (JAN 1991)

52.242-1 NOTICE OF INTENT TO DISALLOW COSTS (APR 1984)

52.242-13 BANKRUPTCY (JUL 1995)

52.243-2 CHANGES--COST-REIMBURSEMENT (AUG 1987)-- ALTERNATE II (APR 1984)

52.244-2 SUBCONTRACTS (COST-REIMBURSEMENT AND LETTER CONTRACTS) (OCT 1997)--ALTERNATE I (AUG 1996) {paragraph (e) is "None"}

52.244-5 COMPETITION IN SUBCONTRACTING (DEC 1996)

52.245-5 GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) (JAN 1986) (DEVIATION) (JULY 1995)--(g) (5) of the clause shall read as follows: "The contractor shall notify the contracting officer upon loss or destruction of, or damage to, Government property provided under this contract, with the exception of low value property for which loss, damage, or destruction is reported at contract termination, completion, or when needed for continued performance. The Contractor shall take all reasonable action to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the affected Government property in the best possible order, and furnish to the Contracting Officer a statement of--" The balance of (g) (5) is unchanged.

52.245-19 GOVERNMENT PROPERTY FURNISHED "AS IS" (APR 1984)

52.246-25 LIMITATION OF LIABILITY--SERVICES (FEB 1997)

52.247-1 COMMERCIAL BILL OF LADING NOTATIONS (APR 1984)

52.247-63 PREFERENCE FOR U.S.-FLAG AIR CARRIERS (JAN 1997)

52.247-67 SUBMISSION OF COMMERCIAL TRANSPORTATION BILLS TO THE GENERAL SERVICES ADMINISTRATION FOR AUDIT (JUN 1997)

52.249-6 TERMINATION (COST-REIMBURSEMENT) (SEP 1996)

52.249-14 EXCUSABLE DELAYS (APR 1984)



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### CONTRACT CLAUSES

52.251-1	GOVERNMENT SUPPLY SOURCES (APR 1984)
1852.215-84	OMBUDSMAN (OCT 1996) The installation Ombudsman is William F. Townsend at 301-286-5066.
1852.216-89	ASSIGNMENT AND RELEASE FORMS (JUL 1997)
1852.223-74	DRUG-AND ALCOHOL-FREE WORKPLACE (MAR 1996)
1852.243-71	SHARED SAVINGS (MAR 1997)

(End of By Reference Clauses)

#### I.2 CLAUSES INCORPORATED BY REFERENCE (52.252-2) (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

Federal Acquisition Regulation (FAR) clauses:

<http://www.arinet.gov/far/>

NASA FAR Supplement (NFS) clauses:

<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

(End of clause)

#### I.3 INCENTIVE FEE (52.216-10) (MAR 1997)

(a) General. The Government shall pay the Contractor for performing this contract a fee determined as provided in this contract.

(b) Target cost and target fee. The target cost and target fee specified in the Schedule are subject to adjustment if the contract is modified in accordance with paragraph (d) below.

(1) "Target cost," as used in this contract, means the estimated cost of this contract as initially negotiated, adjusted in accordance with paragraph (d) below.

(2) "Target fee," as used in this contract, means the fee initially negotiated on the assumption that this contract would

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### CONTRACT CLAUSES

be performed for a cost equal to the estimated cost initially negotiated, adjusted in accordance with paragraph (d) below.

(c) Withholding of payment. Normally, the Government shall pay the fee to the Contractor as specified in the Schedule. However, when the Contracting Officer considers that performance or cost indicates that the Contractor will not achieve target, the Government shall pay on the basis of an appropriate lesser fee. When the Contractor demonstrates that performance or cost clearly indicates that the Contractor will earn a fee significantly above the target fee, the Government may, at the sole discretion of the Contracting Officer, pay on the basis of an appropriate higher fee. After payment of 85 percent of the applicable fee, the Contracting Officer may withhold further payment of fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the applicable fee or \$100,000, whichever is less. The Contracting Officer shall release 75 percent of all fee withholds under this contract after receipt of the certified final indirect cost rate proposal covering the year of physical completion of this contract, provided the Contractor has satisfied all other contract terms and conditions, including the submission of the final patent and royalty reports, and is not delinquent in submitting final vouchers on prior years' settlements. The Contracting Officer may release up to 90 percent of the fee withholds under this contract based on the Contractor's past performance related to the submission and settlement of final indirect cost rate proposals.

(d) Equitable adjustments. When the work under this contract is increased or decreased by a modification to this contract or when any equitable adjustment in the target cost is authorized under any other clause, equitable adjustments in the target cost, target fee, minimum fee, and maximum fee, as appropriate, shall be stated in a supplemental agreement to this contract.

(e) Fee payable. (1) The fee payable under this contract shall be the target fee increased by 0 cents for every dollar that the total allowable cost is less than the target cost or decreased by 0 cents for every dollar that the total allowable cost exceeds the target cost, unless the total allowable cost exceeds target cost by 15 percent or more. If the total allowable cost exceeds target cost by 15 percent or more, the fee shall be \$0. In no event shall the fee be greater than the negotiated target or less than 0 percent of the target cost.

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(2) The fee shall be subject to adjustment, to the extent provided in paragraph (d) above, and within the minimum and maximum fee limitations in subparagraph (1) above, when the total allowable cost is increased or decreased as a consequence of (i) payments made under assignments or (ii) claims excepted from the release as required by paragraph (h)(2) of the Allowable Cost and Payment clause.

(3) If this contract is terminated in its entirety, the portion of the target fee payable shall not be subject to an increase or decrease as provided in this paragraph. The termination shall be accomplished in accordance with other applicable clauses of this contract.

(4) For the purpose of fee adjustment, "total allowable cost" shall not include allowable costs arising out of--

(i) Any of the causes covered by the Excusable Delays clause to the extent that they are beyond the control and without the fault or negligence of the Contractor or any subcontractor;

(ii) The taking effect, after negotiating the target cost, of a statute, court decision, written ruling, or regulation that results in the Contractor's being required to pay or bear the burden of any tax or duty or rate increase in a tax or duty;

(iii) Any direct cost attributed to the Contractor's involvement in litigation as required by the Contracting Officer pursuant to a clause of this contract, including furnishing evidence and information requested pursuant to the Notice and Assistance Regarding Patent and Copyright Infringement clause;

(iv) The purchase and maintenance of additional insurance not in the target cost and required by the Contracting Officer, or claims for reimbursement for liabilities to third persons pursuant to the Insurance--Liability to Third Persons clause;

(v) Any claim, loss, or damage resulting from a risk for which the Contractor has been relieved of liability by the Government Property clause: or

(vi) Any claim, loss, or damage resulting from a risk defined in the contract as unusually hazardous or as a nuclear risk and against which the Government has expressly agreed to indemnify the Contractor.

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(5) All other allowable costs are included in "total allowable cost" for fee adjustment in accordance with this paragraph (e), unless otherwise specifically provided in this contract.

(f) Contract modification. The total allowable cost and the adjusted fee determined as provided in this clause shall be evidenced by a modification to this contract signed by the Contractor and Contracting Officer.

(g) Inconsistencies. In the event of any language inconsistencies between this clause and provisioning documents or Government options under this contract, compensation for spare parts or other supplies and services ordered under such documents shall be determined in accordance with this clause.

(End of clause)

#### I.4 ORDERING (52.216-18) (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued during the period of performance cited in Clause F.2.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

#### I.5 ORDER LIMITATIONS (52.216-19) (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than \$1,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under

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the contract.

(b) Maximum order. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of \$20M;

(2) Any order for a combination of items in excess of \$20M; or

(3) A series of orders from the same ordering office within 30 days that together call for quantities exceeding the limitation in subparagraph (1) or (2) of this section.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 5 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

#### I.6 SPECIAL 8(a) CONTRACT CONDITIONS (52.219-11) (FEB 1990) (DEVIATION)

(a) This contract is issued as a direct award between the contracting activity and the 8(a) contractor pursuant to a Memorandum of Understanding between the Small Business Administration (SBA) and the National Aeronautics and Space Administration. Accordingly, the SBA is not a party to this contract. SBA does retain responsibility for 8(a) certification, 8(a) eligibility determinations and related issues, and providing counseling and assistance to the 8(a) contractor under the 8(a) program. The cognizant SBA district office is:

U.S. Small Business Administration

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Washington District Office  
1110 Vermont Avenue, N.W.; 9th Floor  
Washington, D.C. 20043-4500

(b) The contracting activity is responsible for administering the contract and taking any action on behalf of the Government under the terms and conditions of the contract; provided, however, that the contracting activity shall give advance notice to the SBA before it issues a final notice terminating performance, either in whole or in part, under the contract. The contracting activity shall also coordinate with the SBA prior to processing any novation agreement. The contracting activity may assign contract administration functions to a contract administration office.

(c) The contractor agrees:

(1) To notify the Contracting Officer, simultaneous with its notification to SBA (as required by SBA's 8(a) regulations), when the owner or owners upon whom 8(a) eligibility is based plan to relinquish ownership or control of the concern. Consistent with Section 407 of Public Law 100-656, transfer of ownership or control shall result in termination of the contract for convenience, unless the SBA waives the requirement for termination prior to the actual relinquishing of ownership and control.

(2) It will not subcontract the performance of any of the requirements of this contract without the prior written approval of the SBA and the Contracting Officer.

(End of clause)

#### I.7 LIMITATIONS ON SUBCONTRACTING (52.219-14) (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--

(1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees for the concern.

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(2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

(End of clause)

#### I.8 NOTIFICATION OF COMPETITION LIMITED TO ELIGIBLE 8(a) CONCERNS (52.219-18) (JAN 1997) (DEVIATION)

(a) Offers are solicited only from small business concerns expressly certified by the Small Business Administration (SBA) for participation in the SBA's 8(a) Program and which meet the following criteria at the time of submission of offer--

(1) SIC code 8731 is specifically included in the Offeror's approved business plan;

(2) The Offeror is in conformance with the 8(a) support limitation set forth in its approved business plan; and

(3) The Offeror is in conformance with the Business Activity Targets set forth in its approved business plan or any remedial action directed by the SBA.

(b) By submission of its offer, the Offeror represents that it meets all of the criteria set forth in paragraph (a) of this clause.

(c) Any award resulting from this solicitation will be made directly by the Contracting Officer to the successful 8(a) offeror selected through the evaluation criteria set forth in this solicitation.

(d) Agreement. (1) Agreement. A small business concern submitting an offer in its own name agrees to furnish, in performing the contract, only end items manufactured or produced

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by small business concerns in the United States. The term "United States" includes its territories and possessions, the Commonwealth of Puerto Rico, the trust territory of the Pacific Islands, and the District of Columbia. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic concern. This paragraph does not apply in connection with construction or service contracts.

(2) The Contractor will notify the Goddard Space Flight Center's Contracting Officer in writing immediately upon entering an agreement (either oral or written) to transfer all or part of its stock or other ownership interest to another party.

(End of clause)

#### I.9 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (52.222-42) (MAY 1989) (CY.1995)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY:  
IT IS NOT A WAGE DETERMINATION

SEE ATTACHMENT H

The monetary wages (hourly rates) are computed in accordance with FAR 22.1016(b).

\* Fringes are as follows:

1. Holidays--New Year's Day, Martin Luther King's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day, and Inauguration Day (when applicable).

2. Annual Leave:--Two hours of annual leave each week for an employee with less than three years service; three hours of annual leave each week for an employee with three but less than



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fifteen years of service; and four hours of annual leave each week for an employee with fifteen or more years of service.

3. Sick leave--Two hours of sick leave each week for all employees.

4. Life insurance, health insurance, workers' compensation, and Federal Insurance Compensation Act (for temporary employees) at 7 percent of basic hourly rate.

5. Retirement at 7 percent of basic hourly rates for employees hired through December 31, 1985. Retirement at .94 percent for employees hired on January 1, 1986, or after.

6. Medicare at 1.45 percent of basic hourly rates for employees hired on or before December 31, 1985.

7. Social Security (inclusive of Medicare) at 7.65 percent of basic hourly rates for employees hired on or after January 1, 1986, up to a maximum gross annual salary of \$61,200. The Medicare portion (1.45 percent) continues for all wages earned.

(End of clause)

I.10 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA  
(52.223-3) (JAN 1997)--ALTERNATE I (JUL 1995)

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined by paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Identification No.

.....

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.....  
(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate, and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing

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of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (I)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS must be placed in a weather resistant envelope.

(End of clause)

#### I.11 NOTICE OF RADIOACTIVE MATERIALS (52.223-7) (JAN 1997)

(a) The Contractor shall notify the Contracting Officer or designee, in writing, 30 days prior to the delivery of, or prior to the completion of any servicing required by this contract, of

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items containing either (1) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (2) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. Such notice shall specify the part or parts of the items which contain radioactive materials, a description of the materials, the name and activity of the isotope, the manufacturer of the materials, and any other information known to the Contractor which will put users of the items on notice as to the hazards involved (OMB No. 9000-0107).

(b) If there has been no change affecting the quantity of activity, or the characteristics and composition of the radioactive material from deliveries under this contract or prior contracts, the Contractor may request that the Contracting Officer or designee waive the notice requirement in paragraph (a) of this clause. Any such request shall--

(1) Be submitted in writing;

(2) State that the quantity of activity, characteristics, and composition of the radioactive material have not changed; and

(3) Cite the contract number on which the prior notification was submitted and the contracting office to which it was submitted.

(c) All items, parts, or subassemblies which contain radioactive materials in which the specific activity is greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries, and all containers in which such items, parts or subassemblies are delivered to the Government shall be clearly marked and labeled as required by the latest revision of MIL-STD 129 in effect on the date of the contract.

(d) This clause, including this paragraph (d), shall be inserted in all subcontracts for radioactive materials meeting the criteria in paragraph (a) of this clause.

(End of clause)

#### I.12 OZONE-DEPLETING SUBSTANCES (52.223-11) (JUN 1996)

(a) Definition. "Ozone-depleting substance", as used in this

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clause, means any substance designated as Class I by the Environmental Protection Agency (EPA) (40 CFR Part 82), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or any substance designated as Class II by EPA (40 CFR Part 82), including but not limited to hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

"WARNING: Contains (or manufactured with, if applicable) \_\_\_\_\_\*, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere."

\* The Contractor shall insert the name of the substance(s).

(End of clause)

#### I.13 LIMITATION ON WITHHOLDING OF PAYMENTS (52.232-9) (APR 1984)

If more than one clause or Schedule term of this contract authorizes the temporary withholding of amounts otherwise payable to the Contractor for supplies delivered or services performed, the total of the amounts withheld at any one time shall not exceed the greatest amount that may be withheld under any one clause or Schedule term at that time; provided, that this limitation shall not apply to--

(a) Withholdings pursuant to any clause relating to wages or hours of employees;

(b) Withholdings not specifically provided for by this contract;

(c) The recovery of overpayments; and

(d) Any other withholding for which the Contracting Officer determines that this limitation is inappropriate.

(End of clause)

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#### I.14 NOTIFICATION OF CHANGES (52.243-7) (APR 1984)

(a) Definitions. "Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer. "Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing promptly, within seven (7) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

(1) The date, nature, and circumstances of the conduct regarded as a change;

(2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;

(3) The identification of any documents and the substance of any oral communication involved in such conduct;

(4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;

(5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--

(i) What contract line items have been or may be affected by the alleged change,

(ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;

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(iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;

(iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and

(6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing promptly and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall promptly countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within twenty-one (21) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

(1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;

(2) Countermand any communication regarded as a change;

(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or

(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above,

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advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments. (1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made-- .

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

NOTE: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)



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#### I.15 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (52.244-6) (APR 1998)

##### (a) Definitions.

"Commercial item", as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

- (1) 52.222-26, Equal Opportunity (E.O. 11246);
- (2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));
- (3) 52.222-36, Affirmative Action for Handicapped Workers (29 U.S.C. 793); and
- (4) 52.247-64, Preference for Privately Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241) (flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

#### I.16 COMPUTER GENERATED FORMS (52.253-1) (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form

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carries the Standard or Optional Form number and edition date..

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(c) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

#### I.17 USE OF RURAL AREA SMALL BUSINESSES (18-52.219-74) (SEP 1990)

##### (a) Definitions.

"Rural area" means any county with a population of fewer than twenty thousand individuals.

"Small business concern," as used in this clause, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding under this contract, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) NASA prime and subcontractors are encouraged to use their best efforts to award subcontracts to small business concerns located in rural areas.

(c) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as small business concerns located in rural areas.

(d) The Contractor agrees to insert the provisions of this clause, including this paragraph (d), in all subcontracts hereunder that offer subcontracting possibilities.

(End of clause)

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#### I.18 NASA 8 PERCENT GOAL (1852.219-76) (JUL 1997)

##### (a) Definitions.

"Historically Black Colleges or University", as used in this clause means an institution determined by the Secretary of Education to meet the requirements of 34 CFR Section 608.2. The term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institutions", as used in this clause, means an institution of higher education meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which for the purposes of this clause includes a Hispanic-serving institution of higher education as defined in section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

"Small disadvantaged business concern", as used in this clause, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR 124.

"Women-owned small business concern", as used in this clause, means a small business concern (1) which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and (2) whose management and daily business operations are controlled by one or more women.

(b) The NASA Administrator is required by statute to establish annually a goal to make available to small disadvantaged business concerns, Historically Black Colleges and Universities, minority

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institutions, and women-owned small business concerns, at least 8 percent of NASA's procurement dollars under prime contracts or subcontracts awarded in support of authorized programs, including the space station by the time operational status is obtained.

(c) The contractor hereby agrees to assist NASA in achieving this goal by using its best efforts to award subcontracts to such entities to the fullest extent consistent with efficient contract performance.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as small disadvantaged business concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns.

(End of clause)

#### I.19 MINIMUM INSURANCE COVERAGE (18-52.228-75) (OCT 1988)

The Contractor shall obtain and maintain insurance coverage as follows for the performance of this contract:

(a) Worker's compensation and employer's liability insurance as required by applicable Federal and state workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with the Contractor's commercial operations that it would not be practical. The employer's liability coverage shall be at least \$100,000, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(b) Comprehensive general (bodily injury) liability insurance of at least \$500,000 per occurrence.

(c) Motor vehicle liability insurance written on the comprehensive form of policy which provides for bodily injury and property damage liability covering the operation of all motor vehicles used in connection with performing the contract. Policies covering motor vehicles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury liability and \$20,000

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per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(d) Comprehensive general and motor vehicle liability policies shall contain a provision worded as follows:

"The insurance company waives any right of subrogation against the United States of America which may arise by reason of any payment under the policy."

(e) When aircraft are used in connection with performing the contract, aircraft public and passenger liability insurance of at least \$200,000 per person and \$500,000 per occurrence for bodily injury, other than passenger liability, and \$200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least \$200,000 multiplied by the number of seats or passengers, whichever is greater.

(End of clause)

#### I.20 CENTER FOR AEROSPACE INFORMATION (18-52.235-70) (NOV 1992)

(a) The Contractor should register with and avail itself of the services provided by the NASA Center for Aerospace Information (CASI) for the conduct of research or research and development required under this contract. CASI provides a variety of services and products as a central NASA repository of research information which may enhance contract performance. The address is set out in paragraph (d) of this clause.

(b) Should the CASI information or service requested by the Contractor be unavailable or not in the exact form necessary by the Contractor, neither CASI nor NASA is obligated to search for or change the format of the information. A failure to furnish information shall not entitle the Contractor to an equitable adjustment under the terms and conditions of this contract.

(c) When the contract otherwise requires the submission of monthly progress, quarterly progress, or final reports, as defined at 18-27.406(b), the last page of such reports shall be a completed Standard Form (SF) 298, Report Documentation Page.

## SECTION I OF NAS5-99124

### CONTRACT CLAUSES

(d) When the contract requires the delivery of reports or data to CASI, a reproducible copy and a printed or reproduced copy of such reports or data shall be concurrently submitted to:

NASA Center for AeroSpace Information  
Acquisitions  
7121 Standard Drive  
Hanover, MD 21076-1320

(End of clause)

#### I.21 EMERGENCY EVACUATION PROCEDURES (18-52.237-70) (DEC 1988)

The Contractor shall assure that its personnel at Government facilities are familiar with the functions of the Government's emergency evacuation procedures. If requested by the Contracting Officer, the Contractor shall designate an individual or individuals as contact points to provide for efficient and rapid evacuation of the facility if and when required.

(End of clause)

#### I.22 AUTHORIZED DEVIATIONS IN CLAUSES (52.252-6) (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any NASA FAR Supplement Regulation (48 CFR Chapter 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

# SECTION J OF NAS5-99124

## LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

### J.1 LIST OF ATTACHMENTS (GSFC 52.211-101) (OCT 1988)

The following attachments constitute part of this contract:

<u>Attachment</u>	<u>Description</u>	<u>Date</u>	<u>No. of Pages</u>
A	Statement of Work for Multidisciplinary Engineering Development Services for the AETD and STAAC	7/98	31
B	Contractor Safety & Health Plan	9/2/98	8
C	Monthly and Quarterly Financial Reporting Requirements	6/98	2
D	Contract Analysis and Tracking System (CATS) Specification	7/98	78
E	List of Installation Accountable Property	6/98	1
F	Mission Assurance Implementation Plan	9/2/98	23
G	Wage Determination No. 94-2104, Rev. 10	7/1/97	10
H	Government Comparable Rates	RESERVED	RESERVED

SECTION J OF NAS5-99124

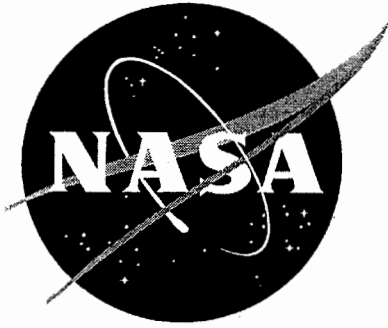
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

I	Direct Labor Rates, Indirect Cost Rates, and Fee Matrices	9/2/98	3
J	Conflict Avoidance Plan	9/2/98	7
K	Incentive Fee Plan	6/98	6

(End of clause)



Attachment A  
NAS5-99124  
June 1998  
Rev. 1 July 1998



**NASA  
GODDARD SPACE FLIGHT CENTER**

**STATEMENT OF WORK  
FOR  
MULTIDISCIPLINARY  
ENGINEERING DEVELOPMENT SERVICES (MEDS)  
FOR THE  
APPLIED ENGINEERING AND  
TECHNOLOGY DIRECTORATE (AETD)  
AND THE  
SYSTEMS TECHNOLOGY AND  
ADVANCED CONCEPTS DIRECTORATE (STAAC)**

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## INTRODUCTION

The National Aeronautics and Space Administration (NASA) was established to plan, direct, and conduct aeronautical and space activities for peaceful purposes for the benefit of all mankind. The operational aspects of NASA's work are divided among field installations around the country and involve research and development activities under the responsibility of six technical program offices at NASA Headquarters.

The Goddard Space Flight Center (GSFC) is located in Greenbelt, Maryland and falls under the Office of Earth Science. The GSFC is chartered to expand the knowledge of the earth and its environment, the solar system, and the universe through observations from space. To this end, the GSFC's primary emphasis is in scientific investigation, in the development and operation of space systems, and in the advancement of essential technologies. In accomplishing this responsibility, the GSFC has undertaken a broad program of scientific research, both theoretical and experimental, in the study of space phenomena and earth sciences. The program ranges from basic research to flight experiment development, and from mission operations to data analysis.

Within the GSFC, the Applied Engineering Technology Directorate (AETD) plans, organizes, and conducts a broad range of technical research and development activities in support of science applications. The AETD is responsible for providing engineering expertise and support in the design, development, fabrication, integration, test, and verification of components, subsystems, systems, science instruments, and complete spacecraft for multiple projects. The specific components, subsystems, systems, and science instruments are ultimately integrated into the spacecraft to form a science observatory. It is these observatories that are launched to fulfill the mission of the GSFC. The AETD comprises five engineering centers: the Mechanical Systems Center (MSC), the Information Systems Center (ISC), the Instrument Technology Center (ITC), the Electrical Systems Center (ESC), and the Guidance, Navigation, and Control Center (GNCC).

Also within the GSFC is the Systems Technology and Advanced Concepts (STAAC) Directorate. The STAAC provides end-to-end systems engineering expertise and leadership for the development of space flight missions, advanced concepts, and technology. The STAAC serves the NASA Enterprises, the scientific community, industry, academia, and other Government agencies. It partners with those that it serves to deliver innovative and cost effective solutions and concepts that maximize scientific return, advance technology, and provide opportunities for increased education and economic growth.

To fulfill these responsibilities and ultimately achieve their missions, the AETD and STAAC Directorates must acquire a wide range of engineering services in support of ESC, ISC, and systems engineering to implement the GSFC mission.

## **SCOPE OF WORK**

The principal purpose of this contract is to provide engineering services to ESC, ISC, systems engineering, and related organizations, as required, for the study, design, development, fabrication, integration, testing, verification, and operations of space flight and ground system hardware and software, including development and validation of new technologies to enable future science missions.

To this end, the contractor shall provide on/off-site multidisciplinary engineering development, pursuant to task assignments issued by the Contracting Officer. These services shall include the personnel, facilities, and materials (unless otherwise provided by the Government) to accomplish the tasks.

Task assignments will be issued to perform services in the following areas for components, subsystems, systems, science instruments, and spacecraft, including attached shuttle payloads, free-flying spacecraft, aircraft and balloon payloads, and Space Station payloads as well as ground support equipment, simulators, non-flight models, and prototypes; candidate, feasibility, and systems definition studies; project management; systems engineering; analysis; preliminary design; detailed design; fabrication; assembly; integration; test and verification; test instrumentation; data systems management; launch and post-launch operations; research and technology unique to system development; parts and materials; documentation; maintenance; sustaining engineering; configuration management; performance assurance; systems safety; and contamination control.

### **I. GENERAL RESPONSIBILITIES**

The Contractor's responsibilities shall include the management of personnel, timely and effective implementation of task assignments, control and monitoring of contract and subcontract performance, management of scheduled deliveries, and timely and effective reporting to the Government. These responsibilities shall also include efficient cost management methods as well as procedures to ensure that the Government is aware of task assignment status and progress achieved.

The Contractor shall be responsible for ensuring that all contractor and subcontractor personnel engaged in performance of this Statement of Work have appropriate qualifications, knowledge, and certification to perform work in accordance with the task assignments.

## **II. PERFORMANCE MEASUREMENT**

Per NFS 18-10.002-71, use of performance-based statements of work/specifications is the preferred method for establishing contract requirements. Therefore, each task assignment issued by the Contracting Officer will include, as a minimum, the following:

1. Statement of Work, including the requirements to be met, the standard(s) of performance/quality of work, and required deliverables (or other output)
2. Performance Specification (if applicable)
3. Applicable Documents (if required)
4. Period of Performance
5. Incentive Structure
6. Surveillance Plan (if required)

The Contractor shall be required to adhere to the performance measurements detailed in each task assignment.

## **III. TASKS**

Services shall be required in one or more of the areas described in the scope above for any given task assignment. Services within the scope of this Statement of Work and specified in task assignments shall include, but not be limited to, the specific services delineated in the following sections.

## **FUNCTION 1 -- CANDIDATE, FEASIBILITY, AND SYSTEMS DEFINITION STUDY SERVICES**

The Contractor shall provide study services that integrate the aspects of flight systems, ground systems, instrument systems and launch systems.

In general, the Contractor shall:

1. Produce concept definition and development phase studies for spacecraft, instruments, and ground systems as well as for pre-launch, launch, post-launch and flight operations
2. Perform hardware and software design and trade-off analyses
3. Develop preliminary, relative cost and schedule estimates based on design alternatives, and identify and assess high-risk elements in designs
4. Document the history of design, qualification, flight experience, and modifications where existing components or subsystems are to be utilized
5. Identify interface requirements for pre-launch, launch, on-orbit servicing, or retrieval of flight hardware
6. Define interface engineering and management requirements
7. Prepare mission systems and operations documentation
8. Prepare requirements and specification packages which conform to applicable standards
9. Identify interfaces and prepare interface control documents
10. Provide technical inputs for problem-solving and/or design inputs in selected spacecraft, instruments, ground system, and data disciplines
11. Analyze various reports (i.e., progress reports) delivered by the GSFC mission contractor(s) and provide recommendations to the project
12. Provide liaison and coordination services for project activities

## **A. Candidate Study Services**

The Contractor shall provide study services in the conceptual development of complete systems, identifying scientific objectives or mission requirements and technical concepts with the intent of revealing ideas that could culminate in the development of systems to support NASA objectives.

1. **Planning Services Specific Tasks** – The Contractor shall provide candidate study services to aid the planning activities of the AETD and STAAC in the following areas:
  - a. Strategic technology planning
  - b. Integration of joint missions, partnerships, and other collaborative efforts
  - c. Research/science/technology/cost trade studies
  - d. Development of science data systems and applications
2. **Science Services Specific Tasks** – The Contractor shall provide candidate study services to aid the AETD and STAAC in the following categories:
  - a. NASA committee participation
  - b. Mission concept development
  - c. Orbital analysis
  - d. Research and technology unique to system development
  - e. Customer development support
  - f. Customer outreach

## **B. Feasibility Study Services**

The Contractor shall provide feasibility study services and conduct activities involving the analysis of alternative or multiple overall approaches or concepts to demonstrate the feasibility of a proposed scientific objective or mission, including:

1. **Analysis Services Specific Tasks** – The Contractor shall perform analysis services tasks, including:
  - a. Preliminary system design of a feasible, but not necessarily optimum, configuration
  - b. Assessment of technical risks, including identification of technical problems and the criticality of their solution to follow-on efforts, identification of those problems currently being addressed, and a judgment of effort and time likely to be necessary to find a practical solution
  - c. Identification of all recommended systems characteristics, including launch and control capability, tracking and data acquisition, facility considerations, and institutional base activities
  - d. Implementation plans, which include the identification of all major systems and subsystems
  - e. Preparation of the system design that forms the basis for implementing system development (hardware or software)



2. **Documentation Specific Tasks** – The Contractor shall document all results from the feasibility study in a Feasibility Study Report.

### **C. System Definition Study Services**

The Contractor shall provide system definition study services including detailed studies, comparative analyses, and verifications to demonstrate that critical systems and subsystems are within the state-of-the-art. This system definition shall facilitate the choice of a single project approach and shall be closely coupled to the advanced technology and research and development activities conducted by the GSFC. The definition effort shall also include refinement of schedule and resources estimates related to the final project concept and objectives. These shall include:

1. **Analysis Services Specific Tasks** – The Contractor shall perform system definition analysis services specific tasks, including:
  - a. Defining alternate project management techniques that shall be used for monitoring and controlling cost, schedule and technical work status of the system during the hardware phase
  - b. Defining system requirements, system budgets (e.g., mass, power), error budgets, system/subsystem requirements, software requirements, ground support equipment requirements, and integration and test requirements
  - c. Identifying all recommended system characteristics, defining the subsystem components and assemblies, identifying the required complement of flight and ground support equipment, specifying internal and external interfaces, and verifying that the recommended design approach's critical subsystems and components are within the state-of-the-art
  - d. Performing risk assessments of all critical elements, describing the risks and control methods
  - e. Preparing the system design that shall form the basis for implementing/developing the system (hardware or software); defining the tasks and sequence of tasks that shall be performed to provide orderly technical development, design, review, interface, test, and integration of the system; and providing the required plans (configuration, logistics, information, software, verification, integration and test, etc.) for the effort
  - f. Providing recommended schedules by work breakdown structure elements and showing relationships among program phases and applicable implementation plans
2. **Documentation Specific Tasks** – The Contractor shall document all results from the definition study effort in a Definition Study Report.

## **FUNCTION 2 – EXECUTION PHASE SERVICES**

The Contractor shall provide services to design, develop, fabricate, assemble, unit test, system integrate, verify, spacecraft/platform integrate, deploy, and operate hardware and software as defined by this Statement of Work. The execution phase tasks shall include:

### **A. Project Management**

The Contractor shall provide management services, including establishment of a management organization that ensures that the assigned task objectives are accomplished within specified schedule and cost constraints. Management shall provide frequent and timely status to the Government via cost, schedule, progress and other reports during all phases of work.

### **B. Systems Engineering**

The Contractor shall provide systems engineering support for all phases of project development from pre-Phase A through Phase F, monitoring and reporting progress and conformance to appropriate practices and specifications. This shall include:

1. **Systems Engineering Specific Tasks** – The Contractor shall perform specific systems engineering tasks that include:
  - a. Defining systems and conducting trade-off studies/design studies for instruments, space segments and ground segments
  - b. Reviewing and analyzing design interfaces
  - c. Preparing, reviewing, and analyzing interface documentation for mission systems
  - d. Identifying interface control requirements for engineering and design of hardware for launch, on orbit servicing, or retrieval of flight hardware
  - e. Preparing interface control documents and verifying proper implementation for flight and ground subsystems and systems
  - f. Monitoring and controlling external interface documentation and requirements
  - g. Conducting and documenting internal design reviews
  - h. Documenting specified and lower level derived requirements to demonstrate that performance requirements are met
  - i. Reviewing/performing independent design and development requirements analyses, and submitting comments and recommendations
  - j. Reviewing technical specifications, and submitting comments and recommendations
  - k. Attending technical meetings/design reviews, and submitting comments and recommendations
  - l. Preparing and presenting of technical information for technical conferences/reviews/briefings
  - m. Analyzing configuration, design, and procedural changes submitted to change control boards
  - n. Performing design, drawing, and specification reviews, providing comments and recommendations to ensure that designs meet specification and interface requirements, that standard and/or qualified parts are used as much as practical, that detailed specifications are compatible with mission requirements, including margin and error budgets, and that proper consideration is given to cost, reliability, safety, fabrication

requirements, contamination control, magnetic materials/interference, launch requirements, and space environment. This shall include testing, thermal conditions, maintainability for ease of removal, physical access, power, weight, volume, moments of inertia, center of mass, telemetry/command requirements, undesirable effects on other subsystems/instruments, and various lead times.

- o. Documenting and maintaining plans for controlling weight, mass properties, and power
- p. Documenting and controlling error budget plans, including power, thermal, attitude, timing, mass properties, etc., both at the flight system level and allocated to lower levels of assembly
- q. Identifying high risk elements and developing/executing contingency plans for controlling the high risk elements
- r. Documenting system qualification requirements
- s. Documenting and monitoring a command and telemetry signal margin plan, including bit error rates
- t. Monitoring fabrication
- u. Monitoring software development and coding
- v. Monitoring the design, fabrication, and checkout of ground support equipment
- w. Preparing hardware and software integration plans and procedures, and witnessing execution
- x. Preparing detailed functional and environmental test plans and procedures, and witnessing test execution
- y. Ensuring that the technical aspects of shipping requirements and equipment are met
- z. Preparing contamination control requirements
- aa. Preparing operating plans and procedures for cryogenics, fuels, and other hazardous materials
- bb. Preparing plans for launch site checkout, integration and testing of flight systems, including adequacy of the launch site facility
- cc. Participating in user interface meetings and joint integrated simulation training aimed at developing viable user operations
- dd. Analyzing data derived from spacecraft telemetry data sources to ensure total system compatibility
- ee. Monitoring flight performance, analyzing data, and verifying proper performance
- ff. Analyzing flight anomalies and implementing appropriate actions
- gg. Coordinating principal investigator and science working group operations
- hh. Providing liaison for satellite operations
- ii. Verifying proper flight system performance during mission lifetime
- jj. Supporting “lessons learned” presentations post-launch

### **C. Multidisciplinary Analyses Services**

The Contractor shall provide analytical support that includes multidisciplinary system analyses and trade studies involving mechanical, thermal, optics, control, detector, electrical and electronic aspects of flight and ground systems, including associated ground support equipment. Services shall include the definition, development and use of models and simulations to study and quantify system performance and to conduct system trade studies. This includes, but is not limited to, such specific efforts as EMI/EMC analysis, systems performance error budgets, power and weight budgeting and tracking, microphonics analyses, fracture control analyses, microwave communication system analyses (including link margin availability), instrument system analyses (including system sensitivities), and systems reviews of selected critical subsystems. Services shall also include the development of measurement tools and models, analysis of measurement data, defect tracking, process improvement, cost estimation of hardware and software systems, modeling of organizational processes and technical writing documentation.

### **D. Preliminary and Detailed Design Services**

The Contractor shall provide design services that include performance of preliminary (leading to a Preliminary Design Review) and detailed (leading to a Critical Design Review) design of the subsystems, components and assemblies that comprise the instrument/spacecraft/platform. This effort includes hardware and software (flight and ground) as well as ground support equipment (electrical, thermal, contamination, mechanical, and cryogenic). Documentation, including technical reports, drawings, schematics, block diagrams, layouts, parts and materials list, and equipment lists, shall be provided. Specific tasks shall include:

1. **Optical and RF Specific Tasks** – The Contractor shall provide optical and RF design services, including the conceptual and detailed design, development and analysis of the following:
  - a. Geometric optical design
  - b. Diffraction analysis
  - c. Tolerancing of components
  - d. Gaussian beam analysis
  - e. Interferometry
  - f. Radiometry
  - g. Stray light/energy analysis
  - h. Alignment and calibration
2. **Mechanical Specific Tasks** – The Contractor shall provide mechanical design services, including the conceptual and detailed design, development and analysis of the following:
  - a. Assembly and subassembly hardware to house flight components
  - b. Mechanisms
  - c. Component mount design
  - d. Structure
  - e. Ground support and bench test equipment

- f. Analytical studies, including structural analyses (stress, dynamics, thermal, deformation, jitter, etc.); mechanical alignment; interfaces; fracture control; controls analysis; mechanism dynamics; composite material/structure dimensional stability; load analyses, including Space Transportation System (STS) launch, on-orbit, and landing
3. **Thermal Specific Tasks** – The Contractor shall provide thermal design services, including the conceptual design, detailed design, development and analysis of the following:
- a. Thermal system design
  - b. Component/subassembly/assembly cooling, including electronics and detectors
  - c. Cryogenic design, including detectors, optics, and mechanisms
  - d. Advanced thermal control systems
4. **Detector Specific Tasks** – The Contractor shall provide engineering services for state-of-the-art detection systems requiring low noise levels and calibrations traceable to physical standards including the following:
- a. RF
  - b. Submillimeter wave
  - c. Microwave
  - d. Millimeter wave
  - e. Infrared
  - f. Visible
  - g. X-ray
5. **Electrical/Electronics Specific Tasks** – The Contractor shall provide electrical/electronic design services, including the conceptual design, detailed design, development and analysis of the following:
- a. Flight electronic subsystems
  - b. Command and data handling systems
  - c. Flight and ground data systems
  - d. Low noise electronics
  - e. Digital and microprocessor based designs, including FPGA and ASIC devices
  - f. Analog control circuits
  - g. Control systems
  - h. Low voltage systems
  - i. High voltage systems
  - j. Power supplies with programmable voltage and current outputs
  - k. Magnetic circuit analysis
  - l. Electromagnetic compatibility and interference (EMC/EMI)
  - m. Test circuitry and equipment, including interface to computer-based systems
  - n. Bench test equipment
  - o. Electrical ground support equipment
  - p. High speed electronics
  - q. Communication electronics
  - r. Micro controller-based systems
  - s. Flight and test harnesses (conventional wire and fiber optic)
  - t. Breakout boxes

- u. Pyrotechnics
  - v. Simulators
6. **Software Specific Tasks** – The Contractor shall provide software design services, including the conceptual and detailed design, development, analysis, and coding, including:
- a. Real-time flight system control, monitoring and data processing, command and data handling, attitude determination and control, power subsystem control and monitoring, science data collection, processing, storage, and downlink, including:
    - 1. Command and control
    - 2. Data conditioning and communication
    - 3. Subsystem control and status
    - 4. Automated system protection
    - 5. In-flight scientific data processing and analysis
    - 6. Embedded software
  - b. Flight system simulation and modeling software
  - c. Ground and flight system software
  - d. Science support software data systems and application software
  - e. Instrument software
  - f. Information management-based system and associated application software to accomplish:
    - 1. Problem reporting
    - 2. Resource and schedule tracking
    - 3. Configuration management (software and hardware)
    - 4. Parts qualification status and tracking lists
    - 5. System/subsystem integration and qualification status lists
7. **Power Specific Tasks** – The Contractor shall provide power design services, including the conceptual design, detailed design, development, and analysis, including:
- a. Power system design and analysis tools for energy balance and regulation
  - b. Spacecraft power management and distribution electronics
  - c. Photovoltaic energy conversion cells, arrays, and associated ground testing
  - d. Electrochemical energy storage cells, batteries, and associated destructive physical analysis and ground testing
  - e. Instrument low and high voltage power conditioning electronics (converters, filters, regulators)

8. **Radiation Effects and Analysis Specific Tasks** – The Contractor shall provide radiation services for the design, development, testing, and analysis of EEE components, including:

- a. Space environmental and flight analysis
- b. Total dose effects testing
- c. Single event effects testing
- d. Instrument calibration
- e. Operation and maintenance of GSFC's radiation facility
- f. Design and fabrication of radiation flight experiments

9. **Component Technologies Specific Tasks** – The Contractor shall provide component technology services for design, development, and analysis, including:

- a. Non-destructive Evaluation (NDE) of complex integrated circuits employing Finite Element Analysis, Scanning Acoustic Microscope, X-Ray, and thermal analyses
- b. Analysis of novel microelectronic materials
- c. Environmental analysis of active and passive fiber optic components
- d. Microelectronic assembly, including ASICs and custom hybrids

10. **Environmental Testing Specific Tasks** – The Contractor shall provide environmental test services for design, development, and analysis, including:

- a. Vibration
- b. Acoustic
- c. E-M
- d. EMI
- e. EMC
- f. Thermal
- g. Vacuum

#### **E. Fabrication, Assembly and Testing Services**

The Contractor shall provide fabrication, assembly and testing services, including breadboards, engineering models, protoflight models, and flight models at all levels of assembly specified by this Statement of Work, including:

1. **Planning Specific Tasks** – The Contractor shall provide planning services, including:

- a. Implementation and maintenance of overall production and quality engineering plans
- b. Manufacturing, integration and test plans, describing sequences, qualification and acceptance test levels, and facilities needed to accomplish assembly, integration, alignment, testing, quality control, and checkout

2. **Fabrication Specific Tasks** – The Contractor shall provide fabrication services, including:

- a. Optical, mechanical, detector, electrical/electronics, power, and microwave, including antennas
- b. Ground support equipment, including mechanical and electrical, and optical
- c. Laboratory control systems
- d. Wiring harnesses
- e. Special parts
- f. Surface mount printed circuit boards, including leadless chip carriers and chip-on-board techniques

3. **Assembly Specific Tasks** – The Contractor shall provide assembly services, including:

- a. Optical, mechanical, detector, electrical/electronics, power, and microwave, including antennas
- b. Ground support equipment including mechanical, electrical, and optical
- c. Test equipment
- d. Wiring harnesses
- e. Board Layout and Assembly

4. **Logistics Specific Tasks** – The Contractor shall provide logistics services, including:

- a. Identification of critical spares and material
- b. Storage and control of critical spares and material
- c. Shipment of materials, supplies, subsystems, ground support equipment, systems, and flight systems to and from integration, test and launch facilities

5. **Testing Specific Tasks** – The Contractor shall test and/or participate in the GSFC's testing and qualification of hardware and software, including retesting/requalification of spare units and breadboards previously developed for flight projects. These tests shall be conducted in accordance with Government-approved procedures and shall include both functional and environmental tests. Functional tests shall be designed and performed to demonstrate compliance with the operating requirements of the system. Environmental tests shall be designed and performed using environmental conditions that meet the launch, safety, and operations requirements of the assigned task. The Contractor shall perform the following:

- a. In-process testing during the fabrication process to demonstrate that the design meets the requirements specified. In-process testing shall include:
  - 1. Component value measurements and verification of polarity prior to installation and after installation, where feasible
  - 2. Resistance checks of point-to-point wiring and cross tie points, where applicable
  - 3. Hi-pot operations from component-to-component, component-to-frame, etc. in accordance with the applicable GSFC specification or procedure, as required by and specified in a task assignment
  - 4. Leak/pressure testing at the lowest level of assembly possible and throughout the assembly stages



5. X-ray, dye penetrant, and eddy current inspections, as well as other forms of nondestructive analysis
  6. Tests to develop/validate models for structural, mechanical, thermal, optical, power, and electronic components and assemblies
- b. Functional testing, including:
1. Verification of operational characteristics of components and equipment
  2. Testing at Government facilities
  3. Testing and documentation to verify accuracy, repeatability, and stability while operating under simulated flight conditions
- c. Flight qualification testing on units that have successfully completed functional tests and have been prepared for space flight. These tests may be conducted at any of the levels of assembly specified in this Statement of Work, including on the spacecraft. The qualification tests shall be carried out in a test environment specified by the task assignment. The Government may provide test facilities and/or test equipment to the contractor, as specified in the task assignment. Flight qualification testing shall include:
1. Vibration/Shock
  2. Magnetic
  3. Thermal vacuum
  4. Thermal balance
  5. Static loads
  6. Acoustics
  7. Mass properties
  8. Alignment
  9. Electromagnetic interference (EMI)
  10. Electromagnetic compatibility (EMC)
  11. Gravity effects
  12. Radiation effects
  13. Modal survey

#### **F. Integration, Test, and Verification Services**

The Contractor shall provide engineering and test-conductor services that include integrating and verifying the flight, ground systems, and science data system/applications in accordance with applicable documentation and specifications, documenting all nonconformances and dispositions, calibrating the system and its ground support equipment, and providing operating manuals, reference documents, and training.

1. **Integration, Test and Verification Specific Tasks** – The Contractor shall provide integration, test, and verification services, including:
  - a. Flight readiness reviews
  - b. Space flight subsystems
  - c. Space flight instruments
  - d. Space flight payloads
  - e. Aircraft instruments

- f. Ground instrumentation
- g. Ground support systems
- h. Science data systems/applications
- i. Spacecraft and science operations control rooms

#### **G. Laboratory and Test Instrumentation Services**

The Contractor shall provide the services necessary for conceptualization, prototyping, system engineering, design, development, integration, test, sustaining engineering, maintenance and utilization of laboratory and test instrumentation.

1. **Laboratory and Test Instrumentation Specific Tasks** – The Contractor shall provide laboratory and test instrumentation services, including:
  - a. Optics
  - b. Detector engineering
  - c. Laser communication and ranging
  - d. Electrical ground support equipment
  - e. Subsystem bench test equipment
  - f. Special instrumentation
  - g. Thermal
  - h. Contamination
  - i. Operating power test facilities at the GSFC
    - Large Area Pulse Solar Simulator
    - Battery handling & conditioning laboratory
    - High voltage partial discharge laboratory
  - j. Calibration
  - k. Crosstalk
  - l. Microphonics analyses
  - m. Analysis of instrument and spacecraft subsystem interaction

#### **H. Data Systems Management Services**

1. **Data Systems Management Specific Tasks** – The Contractor shall provide data systems management services, including:
  - a. Ensuring that all software (ground and/or flight) packages and associated interfaces are being properly managed and problems adequately identified and resolved.
  - b. Developing, reviewing, and analyzing software requirements and specifications
    - c. Analyzing software designs and design interfaces and making recommendations for solutions in specific problem areas
  - d. Reviewing, analyzing, evaluating, and preparing data systems documentation such as feasibility studies, automatic data processing (ADP) plans, design, design interfaces, procedure handbooks, and other documentation materials
  - e. Defining systems for end-to-end data processing
  - f. Developing schedules for the data processing system in the areas of milestone development, network planning, milestone real-time tracking, and schedule impact analysis
  - g. Contributing to the design, development, validation, implementation, certification, and maintenance of ground or on-board computer system simulators/emulators, including validation

- of flight systems software for ascent, transfer, or on-orbit phases and near real-time reprogramming and validation of modifications for recovery from anomalous situations
- h. Analyzing the design and implementation of simulators/emulators for ground crew training, systems testing and procedure validation

## **I. Launch and Post-Launch Operations Services**

The Contractor shall supply launch and post-launch services, including:

1. **Launch Site Preparation Specific Tasks** – The Contractor shall provide system services at the launch site, including:
  - a. Payload system and its support equipment
  - b. Interfaces to the mission operations control centers
  - c. Technical services to facilitate interfacing with the launch site organization
  - d. Development of launch site support requirements
  - e. Development of launch site plans and procedures
  - f. Assistance in shipment of the flight hardware and associated support equipment to and from the launch site
2. **Launch Operations Specific Tasks** – The Contractor shall provide launch operations services, including:
  - a. Assuring flight readiness of the payload system
  - b. Pre-launch testing of the payload
  - c. Operation of associated support equipment
  - d. Services to the launch vehicle team for payload integration to the vehicle at the launch facility
3. **Mission Operation Support Specific Tasks** – The Contractor shall provide mission operation services, including services for the payload and for carrier and flight support system during mission operations.
4. **Landing and De-Integration Specific Tasks** – The Contractor shall provide landing and de-integration services, including services at the landing site for payload de-integration, post-flight testing, and payload shipment.
5. **Refurbishment of Recovered Systems Specific Tasks** – The Contractor shall provide refurbishment services for recovered flight systems.

6. **Data Reduction Specific Tasks** – The Contractor shall provide data reduction services, including:
  - a. Compiling and analyzing systems performance data during and after the mission
  - b. Reviewing and contributing to the implementation of proposed science data processing systems to ensure timely flow of accurate science data sets
  - c. Reviewing the design and implementation of information data systems to identify sources of science data for investigative purposes, including existing databases and newly acquired data requirements to be scheduled
  - d. Analyzing the development of data transfer systems and data status accounting systems for multiple science data processing centers
  - e. Integrating activities with the Information Systems Center (ISC)
7. **Documentation Specific Tasks** – The Contractor shall provide post-flight summary reports, analyzing the performance of the system during flight.

#### **J. Mission Assurance and Systems Safety Services**

For all levels of flight hardware and software provided by the Contractor and specified by this Statement of Work, the Contractor shall establish and maintain a mission assurance program commensurate with mission requirements as specified by the task. The mission assurance program shall incorporate a system safety program which meets the requirements of NSTS 1700.7B, "Safety Policy and Requirements for Payloads Using the Space Transportation System" and 2.45 SPW S-100/KHB 1700.7B, "Space Shuttle Payload Ground Safety Handbook" for shuttle missions. For ELV missions at ETR or WTR, the system safety program shall meet the requirements of EWR 127-1, "Eastern and Western Range Safety Requirements."

The contractor shall establish and maintain practices, procedures, and processes that are ISO 9000 compliant.

1. **Performance Assurance Specific Tasks** – The Contractor shall provide performance assurance services, including:
  - a. Reviewing payload designs to assure their compliance with performance assurance, reliability, and safety specifications
  - b. Developing, analyzing, and monitoring performance assurance, reliability, system safety plans, and procedures, fabrication assembly, integration and test, verification, and launch support
  - c. Analyzing basic plans for system safety, contamination control, integration, and testing of subsystems and systems
2. **Safety Specific Tasks** – The Contractor shall provide safety services which conform to the system safety/mission assurance program, including:
  - a. Establishing and documenting a systems safety plan in concert with the appropriate launch vehicle and NASA safety policy
  - b. Conducting and assessing system safety analyses for flight designs and launch/retrieval operations to satisfy NASA safety and reliability requirements

- c. Analyzing design changes related to minimizing hazard levels
- d. Participating in system safety reviews
- e. Reviewing the proposed systems design to ensure that proper considerations are given to safety-critical areas, and that safety problems exposed in prior analyses, testing, and operational use of instruments and subsystems are corrected
- f. Conducting Verification and Validation (V&V) programs for flight and critical ground systems software
- g. Preparing the Safety Data Package, including writing and editing
- h. Performing hazards analysis of flight system, shuttle interface equipment, and ground support equipment
- i. Participating in required inspection/testing to fulfill safety data requirements
- j. Coordinating with the GSFC safety officer and participating in formal safety reviews
- k. Preparing final safety data packages

#### **K. Configuration Management Services**

The Contractor shall provide configuration management services throughout the life cycle of flight hardware and software provided within the scope of this Statement of Work. It includes configuration identification, configuration control, configuration accounting and reporting, and configuration verification.

#### **L. Contamination Control Services**

1. **Contamination Control Management Specific Tasks** – The Contractor shall provide contamination control management services, including:
  - a. Developing contamination control plans for spacecraft and instruments
  - b. Determining contamination control requirements and developing appropriate monitoring plans and procedures to assess contamination control requirement compliance
  - c. Monitoring, reviewing, analyzing, and reporting on overall contamination control management, implementation, and development
2. **Contamination Control Analysis Specific Tasks** – The Contractor shall provide contamination control analysis services, including:
  - a. Developing analytical transport models (molecular and/or particulate) for spacecraft and instrument systems and/or other space flight hardware and generating contamination hazards predictions
  - b. Performing detailed environmental analyses of all phases of assembly, integration, test, transportation, pre-launch, launch, on-orbit, and descent and comparing against requirements
  - c. Establishing surface contamination limits based on allowable performance degradation and conducting trade-off analyses, analyzing specifications, and reviewing requirements

3. **Integration and Test Contamination Control Specific Tasks** – The Contractor shall provide integration and test contamination control services, including:
  - a. Providing direction during test planning and the test preparation phase
  - b. Designing, developing, fabricating, and integrating contamination control monitoring devices
  - c. Developing procedures for specific test and cleanliness requirements
  - d. Providing contamination control monitoring during integration and providing assistance during testing and integration

### **FUNCTION 3 – RESEARCH AND TECHNOLOGY SERVICES**

The contractor shall provide advanced research and technology support to the ESC, ISC, systems engineering, and related organizations, including:

#### **A. Solid State Device Research and Development**

The Contractor shall provide research, design, development, and analysis of electronic devices for application to science missions.

1. **Electron Device Development Specific Tasks** – The Contractor shall provide electron device development services, including:
  - a. Research, design, manufacture, and test of semiconductor devices
  - b. Research and development of new, state-of-the-art electronic packaging techniques
  - c. Research and implementation to flight standards of surface mount and multi-chip modules technology

#### **B. Instrument Systems Technology Services**

The Contractor shall provide research, design, development, and testing, and analysis services for instrument systems, including:

1. **Instrument Systems Specific Tasks** – The Contractor shall provide services for the research and development of advanced analytical, engineering, integration, testing, and software engineering techniques including:
  - a. Software engineering
  - b. Software test techniques
  - c. System functional test techniques and methods
  - d. Data analysis algorithms and methods
  - e. System performance testing techniques
  - f. Real-time computer system conceptual design
  - g. Statistics, statistical inference, neural net applications
  - h. Finite element analysis
  - i. Controls and structural interaction analysis
  - j. Laser communications analysis
  - k. Robotic simulations

#### **C. Photonics Technology Services**

The Contractor shall provide research, design, development, test, and analysis services for electro-optical subsystems for scientific systems, including:

1. **Optoelectronics Specific Tasks** – The Contractor shall provide services for optoelectronics technology tasks as follows:

- a. Read/write magnetoptical disk storage
- b. Optical engineering
- c. Opto-mechanical engineering
- d. Fiber optic systems
- e. Calibration and test sets
- f. Alignment

#### **D. Microwave and Millimeter Wave Technology Services**

The Contractor shall provide research, design, development, test, and analysis services for microwave and millimeter wave systems for ground and space flight applications, including:

1. **Antenna and Tracking Systems Specific Tasks** – The Contractor shall provide services for antenna and tracking system technology tasks, including:
  - a. Instrument antenna systems
  - b. Communication antenna systems
  - c. Antenna deployable/retractable assemblies
  - d. Antenna feed networks/components
  - e. Servo controls
  - f. Gimbals
  - g. Phased array antenna technology
2. **Microwave Communications Components Specific Tasks** – The Contractor shall provide services for microwave communications components technology tasks, including:
  - a. Research and development of high-speed analog and digital electronics for RF, microwave, and millimeter wave communications systems
  - b. Research and development of components for space communication applications, including modulator/exciters, solid-state power amplifiers, low-noise amplifiers, low-noise mixers, and improved local oscillator technology.
  - c. Systems engineering
  - d. Transponder technology
3. **Microwave Instruments Specific Tasks** – The Contractor shall provide services for microwave instruments technology tasks, including:
  - a. Instrument antennas
  - b. Low noise receivers, including improved local oscillator technology
  - c. Instrument antenna coverage
  - d. Microwave sources
  - e. Studies and models

#### **E. Instrument Electronics Systems Technology Services**

The Contractor shall provide services for research, design, development, test, and analysis of advanced signal processing electronics for space flight systems, including support for language-based microelectronics development (VHDL, Verilog), as follows:



1. **Sensor Signal Processing Specific Tasks** – The Contractor shall provide services for sensor signal processing technology tasks, including:
  - a. Systems engineering
  - b. Digital signal processing electronics development
  - c. Analog signal processing electronics development
  - d. Advanced flight hardware
  - e. Applications unique electronic test equipment
  - f. Low-level analog signal electronics development
  - g. Software engineering
  - h. Flight robotics
2. **Digital Signal Processing Specific Tasks** – The Contractor shall provide services for digital signal processing technology tasks, including:
  - a. Microprocessor development
  - b. Command and data handling electronics
  - c. Digital logic design
3. **Advanced Applications Specific Tasks** – The Contractor shall provide services for advanced applications technology tasks, including:
  - a. Data and image compression
  - b. Data coding
  - c. High-speed electronics development
  - d. Packet telemetry development
  - e. RISC development
  - f. Proof-of-concept studies
  - g. Electronic engineering design
4. **Power Systems Specific Tasks** – The Contractor shall provide services for power systems technology tasks, including:
  - a. Power system design and analysis
  - b. Spacecraft power management and distribution electronics
  - c. Photovoltaic energy conversion cells and arrays
  - d. Electrochemical energy storage cells and batteries
  - e. Low and high power conditioning electronics

#### **F. Computer Support Technology Services**

The Contractor shall provide computer technology services, including:

1. **Computer Support Specific Tasks** – The Contractor shall provide computer technology services, including:

- a. Engineering support to analyze data acquisition, processing, distribution, archival/storage, and measurement problems
- b. Data reduction to include statistical and thematic trends analyses
- c. Diagnostics assistance for instrument checkout between test consoles and test components
- d. Program services to utilize test instruments in aerospace system test and analysis, including GPIB type operation and GUI based software system
- e. General in-house computer software maintenance to include, but not be limited to, updating and debugging programs
- f. Design, coding, integration, and maintenance of special applications programs
- g. Updating of existing technical in-house computer databases
- h. Transfer of programs from one system to another and testing for functional operations and real time data transfer between dissimilar systems
- i. Debugging of general utility programs, such as graphic packages
- j. Assistance in analyzing and implementing solutions to computer hardware interface problems
- k. Assistance in network and operating system configurations, troubleshooting, installation, and maintenance
- l. Design and debug of test procedures

#### **G. Thermal Control Systems Technology Services**

The Contractor shall provide technology services for the research and development of advanced, two-phase thermal control systems for instruments, systems, and spacecraft, including:

1. **Thermal Control Systems Specific Tasks** – The Contractor shall provide thermal design, implementation, test, and analysis technology services for thermal control systems, including:
  - a. Engineering design, analysis, implementation, testing, and analysis for fixed and variable conductance heat pipes, diode heat pipes, and phase change materials
  - b. Design, analysis, implementation, and test of mechanically and capillary pumped thermal control systems
  - c. Systems engineering to define and recommend appropriate enhancements to existing thermal control technology
  - d. Testing facilities and services for testing two phase heat transfer systems containing ammonia and other working fluids
  - e. Thermal/mechanical capabilities to perform Phase A and Phase B studies for proposed flight experiments to demonstrate two phase heat transfer technology

#### **H. Power Systems Technology Services**

The Contractor shall provide research, design, development, evaluation, and qualification of power system designs and components for space flight applications, including:

1. **Power System Architecture Specific Tasks** – The Contractor shall provide services for power system architecture technology, including:
  - a. Direct energy transfer

- b. Peak power tracker
- 2. **Energy Conversion Devices Specific Tasks** – The Contractor shall provide services for energy conversion device technology, including:
  - a. Multi-junction solar cells
  - b. Thin film solar cells
  - c. Concentrators
- 3. **Energy Storage Devices Specific Tasks** – The Contractor shall provide services for energy storage device technology, including:
  - a. Li Ion
  - b. Single pressure vessel NiH2
  - c. Common pressure vessel NiH2
  - d. NiMH
  - e. Flywheel technology

#### **I. Software Systems Technology Services**

The Contractor shall provide technology services for the research and development of advanced software topics, including:

- 1. **Software Systems Technology Specific Tasks** – The Contractor shall services for research, design, development, implementation, test, and analysis of software systems technology, including:
  - a. Automation and artificial intelligence applications
  - b. Software engineering
  - c. Distributed processing
  - d. Internet applications
  - e. Flight software
  - f. Scientific data analysis
  - g. Visualization and virtual environments
  - h. Data processing, archival and distribution
  - i. Simulation and modeling
  - j. Human-computer interfaces

#### **J. Demonstration, Presentation and Conference Services**

The Contractor shall provide services for hardware and software demonstrations, technical/project/conference presentations, and conference planning/implementation for items within the scope of this Statement of Work, including:

- 1. **Demonstration Specific Tasks** – The Contractor shall provide hardware, software, support equipment, and technical services for onsite and offsite demonstrations.

2. **Presentation Specific Tasks** – The Contractor shall provide materials for inclusion in technical/project/conference presentations, including viewgraphs, information, photographs, etc. In addition, the Contractor shall perform the presentation.
3. **Conference Specific Tasks** – The Contractor shall assist the Government by providing services in the planning and implementation of conferences.

## **FUNCTION 4 – PARTS AND MATERIALS PROGRAM SERVICES**

The Contractor shall provide parts and materials services for hardware/software within the scope of this contract, including:

### **A. Materials and Processes Services**

1. **Materials and Processes Specific Tasks** – The Contractor shall provide materials and process services, including:
  - a. Contamination analysis and control
  - b. Construction analysis
  - c. Design compatibility
  - d. Material evaluation

### **B. Protective Coating and Encapsulation Services**

1. **Protective Coating and Encapsulation Specific Tasks** – The Contractor shall provide protective coating and encapsulation services, including:
  - a. Iridite, anodize, or use comparable coating processes to finish metal surfaces
  - b. Conformal coat and/or encapsulate components, parts, and fixtures in accordance with task assignments and applicable flight application documentation.
  - c. Prime and paint surfaces, parts, and assemblies

### **C. Component and Parts Labeling Services**

1. **Component and Parts Labeling Specific Tasks** – The Contractor shall provide component and parts labeling, including:
  - a. Label and identify parts with location as specified by the applicable document or drawing
  - b. Cover labels with GSFC approved protective finish where required

### **D. Electronics Packaging Services**

1. **Electronics Packaging Specific Tasks** – The Contractor shall provide electronics packaging services, including:
  - a. Circuit board design and manufacture
  - b. Circuit board population and test
  - c. Black box layout/design
  - d. Mechanical mounting, isolation
  - e. EMI/EMC isolation and protection isolation
  - f. Mechanical analysis
  - g. Thermal analysis
  - h. Contamination analysis

### **E. Mechanical Piece Part Design and Fabrication Services**

1. **Mechanical Piece Part Design and Fabrication Specific Tasks** – The Contractor shall provide mechanical piece part design and fabrication services, including:
  - a. Design and manufacture mechanical piece parts to applicable GSFC or NASA standards.
  - b. Electronics enclosures
  - c. Subsystem components
  - d. Mounts
  - e. Housings
  - f. Mechanisms
  - g. Ground support equipment
  - h. Test equipment

**F. EEE Parts Services**

1. **Project Parts Program Management Specific Tasks** – The Contractor shall provide project parts program management services, including:
  - a. Establishment of parts management criteria
  - b. Parts Control Board participation
  - c. Maintenance of parts lists
  - d. Specification preparation
  - e. Parts problem investigations
2. **Parts Testing and Analysis Laboratory Specific Tasks** – The Contractor shall provide parts testing and analysis laboratory services, including:
  - a. Failure Analysis
  - b. Destructive Physical Analysis (DPA)
  - c. Screening
  - d. Qualification
  - e. Characterization testing
3. **Parts Information System Specific Tasks** – The Contractor shall provide parts information system services, including:
  - a. Development and maintenance of parts data bases, including EPIMS (EEE Parts Information Management System), NARS (NASA Alert Reporting System), and the Standard for the Exchange of Product model data (STEP) test bed
  - b. Development and maintenance of the on-line NASA Parts Selection List (NPSL), the Active and Passive Supplier Assessment Program (ASAP, PSAP), and the Vendor Information Matrix (VIM)

## **FUNCTION 5 – DOCUMENTATION SERVICES**

The Contractor shall provide documentation services for all levels of hardware and software within the scope of this Statement of Work, as specified in task assignments. Documents shall conform to applicable documents and specifications. These shall include pertinent NHBs, SMAP, GSFC SPAR-3 (latest change), quality standards, GSFC standards, documents of other NASA Centers, Federal standards, military standards, and commercial standards.

### **A. Document Services**

The Contractor shall provide documentation services, including instrument conceptual designs, program plans, systems analyses, illustrations, technical and implementation plans, test plans, test procedures, test scripts, software documentation, and the full range of system hardware and software documentation. These shall also include up-to-date drawings, specifications, certifications, reports, interface control documents, and agreements.

1. **Document Services Specific Tasks** – The Contractor shall provide document services, including:
  - a. Technical writing
  - b. Editing
  - c. Drafting
  - d. CAD/CAM
  - e. Photographic
  - f. Video
  - g. Reproduction
2. **Photo and Video Specific Tasks** – The Contractor shall use photos and video for maintenance, engineering, or as documentation to explain a problem. They shall become supplemental to assist in unit repair or future development and maintenance. A scale shall be included to indicate relative dimensions in photographs and/or video, where appropriate.

## **FUNCTION 6 – MAINTENANCE SERVICES**

The Contractor shall provide maintenance support, including:

### **A. Preventive Maintenance**

The Contractor shall perform preventative maintenance on hardware within the scope of this Statement of Work as specified in task assignments.

### **B. Emergency Repair Services**

The Contractor shall provide expeditious emergency repair services for hardware within the scope of this Statement of Work, as specified in task assignments. The Contractor shall respond to the Government within four hours of notification to determine and implement a mutually agreeable course of action. In some cases, there shall be 24-hour coverage during flight hardware evaluation, verification, and test. This service shall comprise repair, modification, or replacement of components, subassemblies, and assemblies. Documentation updates shall be required as a result of any design change.



## **FUNCTION 7 – SUSTAINING ENGINEERING SERVICES**

The Contractor shall provide sustaining engineering services for hardware and software within the scope of this Statement of Work, including:

1. Modifications of hardware/firmware, including installation of circuits for improved reliability and/or performance
2. Modifications of wiring to improve circuit performance
3. Fabrication, assembly, wiring, and testing of printed circuit assemblies where necessary to update old circuitry or improve reliability
4. Engineering, fabrication, testing of assemblies or sub-assemblies to replace outdated circuitry to eliminate component or circuit failures
5. Engineering, fabrication, assembly, and testing of circuits to correct problems encountered
6. Modifications of mechanical assemblies, structures, and mechanisms to correct or improve the design
7. Update of drawings, manuals, and technical data to reflect current status at the time of modifications

## **APPLICABLE DOCUMENTS AND SPECIFICATIONS**

The contractor shall adhere to all applicable portions of the following documents and/or specifications in the performance of this contract. The latest updated version shall apply:

GSFC X-673-64-1F, "Engineering Drawing Standards Manual" (December 1994)

GSFC S-313-009, "Fluorescent Penetrant Test Method Requirements and Guidelines"  
(November 1990)

NASA STD 8739.3, "Soldered Electrical Connections"

NSTS 1700.7B, "Safety Policy and Requirements for Payloads Using the Space  
Transportation System"

2.45 SPW S-100/KHB 1700.7B, "Space Shuttle Payload Ground Safety Handbook"

EWR 127-1, "Eastern and Western Range Safety Requirements"

QSS Document #4020

## **ATTACHMENT B**

### **SAFETY AND HEALTH PLAN**

In response to

**Goddard Space Flight Center**  
**RFP5-58392/237**

**August 20, 1998**

**QSS GROUP, INC.**  
**4500 FORBES BOULEVARD**  
**LANHAM, MD 20706**

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## **SAFETY AND HEALTH PLAN**

This Safety and Health Plan, Attachment B, is submitted in response to the Goddard Space Flight Center Request for Proposal RFP5-58392/237.

### **PURPOSE**

The purpose of this Plan is to establish the procedures and guidelines to be followed by MEDS personnel to protect the health and safety of the Government and Contractor personnel and property.

### **SCOPE**

This Plan applies to the contractual performance on-site at the Goddard Space Flight Center and to all offsite facilities occupied by MEDS personnel in the performance of the MEDS contract.

The Plan covers office facilities, laboratories, and fabrication facilities operated under the MEDS contract, and laboratories and facilities used by MEDS personnel in the performance of their contractual duties.

The Plan does not apply to hardware and software developed under the MEDS contract. The health and safety requirements pertaining to these items are covered in the QSS Mission Assurance Program Plan, Appendix C, of the Business Management Volume (QSS Document #4021).

### **RESPONSIBILITIES**

#### **1.1 OVERALL RESPONSIBILITY**

The MEDS Program Manager (PM) is responsible for establishing the Safety and Health Plan to meet the objectives of the Safety and Health contractual requirements. The PM responsibilities include:

- a. Monitoring and evaluating the execution of the Plan, changing the Plan as appropriate to improve the health and safety performance.
- b. Modifying the Plan as appropriate to respond to new GSFC, OSHA, or other regulations.
- c. Appointing MEDS personnel to represent MEDS on GSFC health and safety-related committees.
- d. Appointing MEDS individuals as backup to the MEDS Health and Safety Officer and other MEDS health and safety related roles.
- e. Providing the health and safety orientation of the MEDS staff.
- f. Establishing appropriate health and training courses.

## **1.2 ADMINISTRATIVE RESPONSIBILITY**

The administration of the MEDS Safety and Health Plan is the responsibility of the MEDS Health and Safety Officer (MHSO). The MEDS Performance Assurance Manager shall serve as the MHSO. This responsibility includes the correction of violations to health and safety regulations to facilities and equipment that are the responsibility of QSS.

The MHSO shall be responsible for the MEDS facility inspection and the accident reporting process.

## **1.3 OVERSIGHT RESPONSIBILITY**

The QSS Health and Safety Officer shall be responsible for overseeing the MEDS Health and Safety Program to assure that it complies with GSFC and Corporate Health and Safety regulations. The QSS Health and Safety Officer is responsible for submitting all accident reports for QSS employees to the QSS insurance carrier, who will submit the required accident reports to OSHA. The QSS Health and Safety Officer is responsible for submitting all accident reports for employees of other companies participating in MEDS to the Health and Safety Officer (or equivalent) of that company.

## **ORIENTATION**

All MEDS personnel shall be given an orientation on the requirement to conform to the MEDS Health and Safety Program. A checklist of health and safety steps in the program shall be developed. This checklist shall be completed when each individual is presented with the individual orientation as part of the process of being assigned to the MEDS Program.

## **INSPECTIONS**

Facility inspections shall be conducted by the MHSO and the QSS Health and Safety Officer.

## **1.4 PHASE-IN PERIOD**

The onsite facilities to be occupied by MEDS personnel shall be inspected for health and safety violations. Violations and potential violations shall be reported in writing by the MHSO to the Contracting Officer, with a copy submitted to the Health and Safety Branch, Code 205.2.

## **1.5 PERIODIC INSPECTIONS**

Periodic health and safety inspections, no less than every six months, shall be made of the MEDS-occupied facilities. Nonconformance to safety regulations of any Government-furnished property shall be reported in writing to the Contracting Officer, with a copy to the Health and Safety Branch, Code 205.2.

## **FACILITY SAFETY**

The general rules for industrial safety shall be enforced, including:

- a. Availability of properly inspected fire extinguishers.
- b. Availability of first-aid equipment.
- c. Wearing of safety goggles when engaging in a shop or laboratory process potentially injurious to the eyes.
- d. Wearing of gloves when handling chemicals.
- e. Safe storage of glassware items on shelving.
- f. Avoidance of loose clothing that can get caught in rotating equipment.

## **EMERGENCY EVACUATIONS**

MEDS personnel shall be given awareness training and evacuation training to address emergency conditions. This training shall conform to GSFC evacuation procedures. The GSFC Fire Department shall be called for onsite fire department services.

## **ENVIRONMENTAL HAZARDS**

Material Safety Data Sheets shall be submitted to the Contracting Officer when it is determined that environmentally hazardous material is required to conduct a Task Order.

## **SMOKING POLICY**

MEDS personnel working onsite at GSFC shall conform to the GSFC smoking policy. MEDS personnel working at the MEDS offsite facility shall conform to the QSS corporate smoking policy which does not permit smoking inside buildings.

## **DRIVING AND PARKING REGULATIONS**

MEDS personnel shall obey the GSFC-posted driving speed limits. MEDS personnel shall park in designated parking areas.

## **ACCIDENT REPORTING**

The MHSO shall conduct the mishap investigation and reporting in compliance with NASA Management Instruction 8621.1G, "Mishap Reporting and Investigation." The GSFC Safety and Health Branch, Code 205.2, and the Contracting Officer shall both receive the required notification and report.

The supervisor of the individual involved in an accident shall complete the accident report when the injured individual is incapable of completing the report and submitting it to the QSS Health and Safety Officer.

Telephone numbers for calling emergency health treatment shall be posted prominently throughout all facilities occupied by MEDS personnel.

### TRAINING

A training course shall be developed and exercised whenever the MEDS safety officials determine that formal re-training is required to avoid accidents or when the result of an accident investigation concludes that training is appropriate to avoid a recurrent of the mishap.

### ATTACHMENT -NASA Mishap Report



## NASA Mishap Report

MASTER FILE NO.

NOTE: Fill in unshaded blocks within 24 hours. Please print or type. See reverse for instructions.

## GENERAL INFORMATION

1. NAME OF ORGANIZATION		2. MISHAP DATE (MMDDYY)		3. MISHAP TIME (24 hrs.)		4. ORG. FILE NO.	
5. MISHAP CATEGORY (Check as appropriate)				6. CLOSE CALL <input type="checkbox"/>		7. LEVEL OF POTENTIAL	
8. BLOG. NO./LOCATION							
9. SPECIFIC AREA							
10. MISSION AFFECTED				11. PROGRAM IMPACT			
12. DESCRIPTION OF MISHAP (Sequence of events, extent of damage and injuries, cause, if known, etc. Use additional sheets if necessary.)							

## PERSONNEL INVOLVED

13. NAME (Last, first, middle initial)		14. AGE		15. SEX <input type="checkbox"/> M <input type="checkbox"/> F		16. ORGANIZATION (CODE)/POSITION	
17. SHIFT WORKED <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3		18. HOURS OF CONTINUOUS DUTY BEFORE MISHAP		19. FIRST AID ONLY <input type="checkbox"/> YES <input type="checkbox"/> NO		20. FATALITY <input type="checkbox"/> YES <input type="checkbox"/> NO	
21. INJURY TYPE (Code)		22. BODY PART(S) AFFECTED (Codes)		23. DAYS LOST NO. <input type="checkbox"/> TOTAL <input type="checkbox"/> CONTINUING		24. CAUSE(S) OF INJURY (Codes)	
25. MISHAP ENVIRONMENT (Codes)		26. HAS EMPLOYEE RECEIVED TRAINING/CERTIFICATION APPLICABLE TO TASK? <input type="checkbox"/> YES <input type="checkbox"/> NO		27. CLASS OF EQUIPMENT/PROPERTY DAMAGED		28. SPECIFIC ITEM DAMAGED	

## EQUIPMENT/PROPERTY DAMAGED

27. CLASS OF EQUIPMENT/PROPERTY DAMAGED		28. SPECIFIC ITEM DAMAGED	
1 <input type="checkbox"/> FLIGHT HARDWARE 2 <input type="checkbox"/> GROUND SUPPORT EQUIPMENT (GSE) <input type="checkbox"/> FACILITY		4 <input type="checkbox"/> PRESSURE VESSEL 5 <input type="checkbox"/> MOTOR VEHICLE 6 <input type="checkbox"/> AIRCRAFT 7 <input type="checkbox"/> OTHER	
30. SYSTEM/SUBSYSTEM AFFECTED		31. CAUSE(S) OF DAMAGE (Codes)	
32. COST ESTIMATE \$ FINAL \$			
33. SUBMITTED BY (Name, title, mail code)		SIGNATURE	
PHONE NO.		DATE	

## CORRECTIVE ACTION

34. ACTION PLAN (Provide estimated completion date for each action. Use extra sheets if necessary)			
35. APPROVED (Name, title, mail code)			
SIGNATURE			
PHONE NO.			
DATE			
36. NASA SAFETY CONCURRENCE WITH CORRECTIVE ACTION PLAN (Branch chief or higher)			
CONCUR (Name, title, mail code)			
SIGNATURE			
PHONE NO.			
DATE			

## NASA SAFETY OFFICE USE ONLY

37. LESSONS LEARNED <input type="checkbox"/> YES <input type="checkbox"/> NO		REF. NO. (If Yes)		40. APPROVAL FOR CLOSURE	
38. TYPE OF INVESTIGATION 1 <input type="checkbox"/> BOARD 2 <input type="checkbox"/> TEAM 3 <input type="checkbox"/> INVESTIGATOR		SIGNATURE		PHONE NO.	
39. STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED		SIGNATURE		DATE	

## INSTRUCTIONS

AS REQUIRED IN NMI 8621.1E, COMPLETE THE INITIAL MISHAP REPORT (WHITE COPY, UNSHADED PORTIONS) AND SUBMIT TO YOUR LOCAL NASA SAFETY OFFICE WITHIN 24 HOURS OF THE MISHAP OCCURRENCE. COMPLETE AND SUBMIT THE FOLLOW-UP REPORT (YELLOW COPY) WITHIN TEN WORKING DAYS OF THE MISHAP. RETAIN THE BLUE COPY FOR YOUR OWN FILES.

MASTER FILE NO. - DO NOT FILL IN. This number is assigned by the local NASA Safety Office.

### GENERAL INFORMATION:

1. NAME OF ORGANIZATION - Enter complete name of organization which is reporting mishap.
2. MISHAP DATE - Enter date of mishap in MMDDYY format. Example: 060188.
3. MISHAP TIME - Enter time of mishap using 24-hour clock. Examples: 0930 for 9:30 AM; 1415 for 2:15 PM.
4. ORGANIZATION FILE NO. - Assign file number using your organization's unique four-character code, the mishap number (sequential) using four digits, and the fiscal year using two digits. Example: EGB1-0001-89.
5. MISHAP CATEGORY - Check as appropriate. Refer to NMI 8621.1E for definitions. NOTE: Only one mishap category may be selected. Multiple selections within a category are permissible.
6. CLOSE CALL - Check if appropriate. Refer to NMI 8621.1E for definition.
7. LEVEL OF POTENTIAL - Enter a code from Mishap Categories (Item #5) to reflect the potential impact of the actual mishap or close call under differing conditions.
8. BLDG. NO/LOCATION - Enter the building number and/or location where the mishap occurred.
9. SPECIFIC AREA - Describe the exact location of the mishap. Example: Third floor, far west corridor.
10. MISSION AFFECTED - Enter the name or number of the mission, program, or project affected by the mishap. Examples: STS-32; Delta 181.
11. PROGRAM IMPACT - Describe the effect on the mission, program, or project in terms of delay or significant cost adjustment. Example: Two-week launch delay.
12. DESCRIPTION OF MISHAP - Describe the event including information about the extent of damage and/or injury, conditions that led to the mishap, and cause if known at this time. Specify location of facility where medical treatment was provided.

PERSONNEL INVOLVED (If more than one person was injured, attach a NASA Mishap Report (NF 1627) with only this section completed for each additional person.):

13. NAME - Self-explanatory.
14. AGE - Self-explanatory.
15. SEX - Self-explanatory.
16. ORGANIZATION/POSITION - Enter the organization identification code (four-character code) and position title. Example: EGB1/Technician.
17. SHIFT WORKED - Check as appropriate.
18. HOURS OF CONTINUOUS DUTY BEFORE MISHAP - Self-explanatory.
19. FIRST AID ONLY - Check "Yes" if only First Aid treatment was administered to the individual.
20. FATALITY - Check as appropriate.
21. INJURY TYPE - Enter code. (See reverse of yellow sheet for appropriate code.)
22. BODY PART(S) AFFECTED - Enter up to 3 codes. (See reverse of yellow sheet for appropriate codes.)
23. NUMBER OF LOST DAYS - Enter the number of days lost. Check either "Total" or "Continuing".
24. CAUSE(S) OF INJURY - Enter codes. (See reverse of yellow sheet for appropriate codes.)
25. MISHAP ENVIRONMENT - Enter up to 3 codes for Agency and Activity. (See reverse of yellow sheet for appropriate codes.)
26. HAS EMPLOYEE RECEIVED TRAINING/CERTIFICATION APPLICABLE TO TASK? - Check as appropriate. If "Yes" and name of training course or type of certification is known, reference this information in Item #12, "Description of Mishap."

### EQUIPMENT/PROPERTY DAMAGED:

27. CLASS OF EQUIPMENT/PROPERTY DAMAGED - Check as applicable.
28. SPECIFIC ITEM DAMAGED - Provide description.
29. SERIAL NO. AND NEMS - (NEMS - NASA Equipment Management System - number is located on the NASA property tag affixed to each piece of NASA equipment.)
30. SYSTEM/SUBSYSTEM AFFECTED - Indicate engineering system and subsystem of class of equipment/property damaged as identified in Item #27. Example: If the class indicated in item #27 is Flight Hardware, the system and subsystem could be "Orbiter/Avionics."
31. CAUSE(S) OF DAMAGE - Enter codes. (See reverse of yellow sheet for appropriate codes.)
32. COST - If initial estimate is not immediately known, enter the minimum damage cost for the mishap category selected in item #5. (Refer to NMI 8621.1E for definitions of COSTS and MISHAPS.) Provide Final Cost in follow-up report. Example: If Mishap Category is C6, the minimum damage cost is \$25,000.
33. REPORT SUBMITTED BY - Self-explanatory.

### CORRECTIVE ACTION:

34. ACTION PLAN - List planned corrective actions, responsible organizations and estimated completion dates.
35. CORRECTIVE ACTION PLAN APPROVED BY - Signature of appropriate level of management in reporting organization.
36. NASA SAFETY CONCURRENCE WITH CORRECTIVE ACTION PLAN - Signature of NASA Safety Branch Chief or higher level.
- 37-40. To be completed by NASA Safety Office.

MONTHLY AND QUARTERLY  
FINANCIAL MANAGEMENT REPORTING REQUIREMENTS

General

Financial Management Reports shall be submitted by the Contractor on the NASA 533 series reports, in accordance with the instructions on the reverse of the forms, NASA Procedures and Guidelines NPG 9501.2C entitled "Procedures for Contractor Reporting of Correlated Cost and Performance Data," dated April 1996, and additional instructions issued by the Contracting Officer.

a. Level of Detail

The Contractor's 533 Reports shall contain a separate 533 sheet for each task order. The reports shall contain a breakdown of each task order by element of cost, i.e., direct labor hours/dollars, overhead, general & administrative (G&A), travel, equipment, material, and other direct costs. The report shall also include a summary of total contract costs.

b. Distribution

The Contractor shall distribute 533 reports to each addressee indicated in the Basic Contract Clause H.5, Monthly and Quarterly Financial Management Reports. These reports shall be distributed not later than the fifteenth (15th) calendar day following the month being reported.

c. Reporting Requirements

Each report shall provide hour and cost data for reporting categories as presented below:

Direct Labor Hours

Onsite

(List applicable labor categories)

Offsite

(List applicable labor categories)

Direct Labor Dollars

Onsite

(List applicable labor categories)

Offsite

(List applicable labor categories)

DIRECT LABOR HOURS

Straight Time Onsite

Straight Time Offsite

Straight Time \_\_\_\_site  
Overtime Onsite  
Overtime Offsite  
Overtime \_\_\_\_site  
**Shift Onsite**  
**Shift Offsite**  
**Shift \_\_\_\_site**  
Total Prime's Hours  
Teaming Subcontractor Hours  
Subcontractor Hours  
Total Labor Hours  
LABOR DOLLARS  
    Direct Labor \$ Onsite  
    Direct Labor \$ Offsite  
    Direct Labor \$ \_\_\_\_site  
Total Labor Dollars  
    Onsite Overhead  
    Offsite Overhead  
    \_\_\_\_site Overhead  
Total Overhead  
OTHER DIRECT CHARGES  
    Materials  
    Local Travel  
    Travel  
    Overtime Premium  
    Miscellaneous  
Total ODC  
Subtotal Prime's Costs  
TEAMING SUBCONTRACTORS  
    Company A  
    Company B  
Total Subcontracts  
SUBTOTAL  
G&A  
TOTAL COST  
TARGET FEE  
TOTAL COST PLUS TARGET FEE

The 533, for each individual task, shall report Direct Labor hours by labor category.

Other Special Reports

The Contractor shall submit, as required, special cost or manpower reports either in the areas of actuals, projections or both. These reports may take the form of labor, overhead, other direct charges, billing analyses or other business information. When required, specific instructions will be provided by the Contracting Officer.

Additional Requirements

Before the summary 533 sheet, the Contractor shall submit a financial summary containing a one-line summary for all tasks on the contracts. It shall include the following columns:

Task Number  
Status  
Cumulative to Date Actual \$  
Cumulative to Date Actual \$ Plus Month 1 Planned \$  
Contractor Estimate \$  
Cumulative to Date Planned Hours  
Cumulative to Date Actual On-Site Hours  
Cumulative to Date Actual Off-Site Hours (Including Subs)

In addition to the hardcopy of the summary sheet, the Contractor shall provide the summary sheet on a 3.5" diskette in an Excel spreadsheet or Microsoft Access file.

(End of Attachment C)



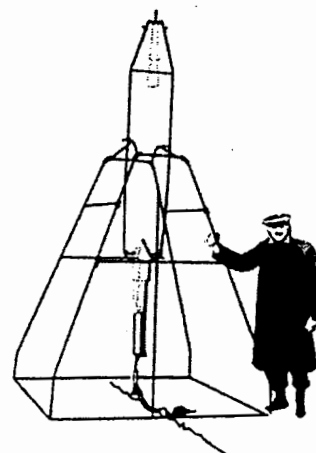
**NAS5-99124**  
**Attachment D**

**Specification for the  
Electronic Reporting of  
Contractor Cost and Performance  
Data to the Electrical Systems Center's  
Contract Analysis and Tracking System (CATS)**

**NASA Goddard Space Flight Center  
Electrical Systems Center, Code 560  
Greenbelt, MD 20771**

**July 1998**

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## 1.0 INTRODUCTION

This document describes formats for the series of reports which will be provided electronically by the contractor for Electrical Systems Center (Code 560) contracts. Several of the financial reports formats have been modified to include additional information. Contractors are required to submit these reports electronically to facilitate the transfer of the information to Code 560's Contract Analysis and Tracking System (CATS) database.

The following series of financial reports are required to be submitted by prime contractors and designated subcontractors on a recurring basis:

1. **NASA Form 533M**      a monthly report which provides data on planned and actual costs and labor hours, short-term cost projections, estimates to complete, and contract task values.
2. **Contractor Workforce Report**      a monthly report which provides a breakdown of hours worked by each employee on each task.
3. **Contractor Task Report**      a report which details task budgets projected over the life of the task. The report is required when a task is initiated and modified, as well as anytime at which the variance between the task's CTR amount and total cost at completion exceeds the acceptable variance percentage stated in the contract.
4. **Assumptions and Clarifications to the CTR**      a supporting document to the Contractor Task Report which describes assumptions made by the contractor in developing the cost estimate.
5. **Monthly Technical Progress Report**      a monthly narrative report for each active task describing overall progress, an indication of any current problems, and work to be performed during the next reporting period.
6. **ODC Report**      a monthly report which provides detail breakdown of other direct costs (ODC) charged to individual tasks.
7. **NASA Form 533Q**      a quarterly report, which provides data on planned and actual costs and labor hours, quarterly cost projections, estimates to complete, and contract task values.

Prime contractors and their team members are required to submit the above reports. First level subcontractors may be required to submit the above reports – this will be specified at the start of the contract. Companies not having a subcontract with the prime contractor are not required to submit. The same format is to be used by the prime contractor and the subcontractors (or team members); however, different information is expected for each.

This document contains descriptions, illustrations, and examples of the standard formats for hardcopy versions of the reports (see Section 2.0). **The reporting categories shown are typical categories from previous contracts. The number of categories is variable; categories may be added or removed to meet the reporting needs of a particular contract.** Also included are descriptions of the media specifications and file formats for electronic filing of these reports (see Section 3.0).

"Procedures for Contractor Reporting of Correlated Cost", NPG 9501.2C, April 23, 1996, contains additional instructions. The 533 series also includes NASA Form 533Q; however, it is not discussed in this document.

## CATS Interface Specification

### 1.1 Glossary

1 Page CTR	A CTR for a task that is less than or equal to 12 months.
2 Page CTR	A CTR for a task that is between 13 and 24 months.
3 Page CTR	A CTR for a task that is between 25 and 36 months.
Closed Task	A task whose performance period has ended and its 533 remaining plan <i>equals zero</i> (columns 8a, 8b, and 8c).
Inactive Task	A task whose performance period has ended but its 533 remaining plan is <i>not zero</i> (columns 8a, 8b, and 8c).
Job Category	Identifies a particular job skill, see Table 3.3-1.
Other Site	Contractor-provided facility (other than their primary offsite facility) such as manufacturing. Contractor will define their "other" sites.
Offsite	Primary contractor-provided facility supporting the contract.
Onsite	Government-provided facility.
Prime Contractor	Contractor responsible for the management of the contract. The prime contractor may have other contractors working on the contract either as team members or as subcontractors.
Reporting Category	Identifies a particular line item cost, see Table 3.2-1.
Subcontractor	Subcontract to the prime contractor. Subcontractor charges are burdened by the G&A charges of the prime contractor.
Team Member	Team member of the prime contractor. Team member charges are burdened by the Team Handling Charges of the prime contractor.
White space	Spaces and/or Tabs separating fields in a record of a file.
<cr>	Carriage return.
<lf>	Line feed.

## CATS Interface Specification

### 1.2 *Revision Summary*

The following summarizes the revisions to the former document: "Specification for the Electronic Reporting of Contractor Cost and Performance Data to the Electrical Engineering Division's Contract Analysis and Tracking System":

- Changed to reflect the reorganization from Code 730 to Code 560.
- The 533 Financial Part II Report was deleted.
- Provision was made for additional sites designated as contractor's "Other Sites".
- The ATR and Code field was split into two (2) separate fields on the 533 and CTR reports.
- On the Workforce Report and File Specification, the GSFC Organization code was moved from the employee data area to the task data area. It now identifies the organization code that the contract employee is supporting on the task.
- The Other Direct Costs (ODC) Report was added.
- Compliance to Year 2000 was added.

## 2.0 FORM DESCRIPTIONS -- HARDCOPY FORMATS

This section contains descriptions of the seven report forms: NF533M, a monthly report detailing planned and actual contract costs is discussed in Section 2.1. The Contractor Workforce Report is discussed in Section 2.2. The Contractor Task Report is discussed in Section 2.3, and Assumptions and Clarifications to the CTR is addressed in Section 2.4. The Monthly Technical Progress Report is discussed in Section 2.5. The Other Direct Costs (ODC) Report is discussed in Section 2.6. NF533Q, a quarterly report detailing planned and actual contract costs is discussed in Section 2.7.

### 2.1 NASA Form 533M

As stated in the Introduction, NF533M is a monthly report detailing planned and actual costs and labor hours, short-term cost projections, estimates to complete, and contract task values.

NF533M (for prime contractors and subcontractors) contains a summary of labor hours, labor costs, overhead costs, other charges, and totals (realized and projected). Contractors are required to submit one NF533M each month (or contract accounting period). The NF533M consists of a summary of the overall contract and detail for each task.

Form NF533M is illustrated in Figures 2.1-1. The shaded areas of the form in the figure indicate the sections to be completed by the contractor.

An example of a completed NF533M containing a contract summary is included as Figures 2.1-2. An example of a completed NF533M containing information for a single task is included as Figures 2.1-3.

The following is a detailed description of the NF533M (Item # and Line # refers to Figure 2.1-1):

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
1.		<b>Description of Contract</b>	
1a.		Type of Contract	Cost-Plus-Award-Fee, Cost-Plus-Fixed-Fee, Cost-Plus-Incentive-Fee, etc.
1b.		Contract and Latest Amendment Number	Complete letter or contract symbol, number, and number of latest amendment. Subcontractors use the prime contract number.
1c.		Task No.	Task number (e.g. Task 155) if single task or SUMMARY if overall contract summary. If a subcontractor report, task number must agree with prime contractor task number.
1d.		Task Mod.	Modification letter of current amendment (e.g. A, B, C, etc.). Leave blank if no amendment has been issued.
1e.		WBS No.	Work Breakdown Structure Number, if applicable, for a single task. Leave blank if overall contract summary.

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
1f.		Task Status	Status of the task: Active, Inactive, or Closed <sup>1</sup> . Leave blank if overall contract summary.
1g.		% of Effort Complete	Contractor's assessment of the amount of the overall effort completed. Leave blank if overall contract summary.
1h.		Scope of Work	Brief description of the contract effort or individual task effort if single task. Identify the service, project, system or subsystem, and, where hardware is concerned, the quantity being procured or proposed for the contract.
1i.		Authorized Contractor Representative	The authorized contractor representative shall sign and date to reflect approval. (Date signifies date of approval.)
1j.		ATR Name	Name of the government's Authorized Technical Representative (ATR), also referred to as the task monitor. Leave blank if contract summary.
1k.		ATR Code	GSFC Organization Code for the ATR.
1l.		Date of Report	Date of report preparation.
2.		Report for Month Ending and Number of Operating Days	The ending date of the contractor's accounting month and the number of operating days for that accounting month.
3.		Contract Value	The total definitized cost (A) and fee (B) of all work to be performed under the contract, as of the report date, for the overall contract summary. Include dollar amounts through the latest definitized amendment as noted in 1b above. For all incentive contracts, enter the negotiated target cost and target fee. For single tasks, enter the Contractor Task Report (CTR) value.
4.		Funding Limitation	The total funding obligated and the latest corresponding contract amendment number, as of the report date, for the overall contract summary and individual tasks.
5.		Billing:	(Pertains to overall summary only.)
5A.		Invoice Amounts Billed	The total amount of invoices billed by the contractor against the contract and the latest invoice number as of the report date.
5B.		Total Payments Received	The total amount of payments received by the contractor for the contract as of the report date.
6.		Reporting Category	Information required for the various categories under this heading depends on who is submitting the report, the prime contractor (P) or a subcontractor (S). The number of reporting categories is flexible (see Table 3.2-1).
6.	1.	Direct Labor Hours	Number of labor hours performed by the contractor submitting the report.

<sup>1</sup>An Inactive task is one whose performance period has ended but its 533M remaining plan is *not* zero (columns 8a, 8b, and 8c).  
A Closed task is one whose performance period has ended and its 533M remaining plan *equals* zero (columns 8a, 8b, and 8c).

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
6.	2.	Straight-Time Onsite <sup>1</sup>	Direct straight-time labor hours performed onsite.
6.	3.	Straight-Time Other Sites <sup>1</sup>	Direct straight-time labor hours performed at an "other" site. If other sites are used, provide each site on a separate line.
6.	4.	Straight-Time Offsite <sup>1</sup>	Direct straight-time labor hours performed offsite.
6.	5.	Overtime Onsite <sup>1</sup>	Direct overtime labor hours performed onsite.
6.	6.	Overtime Other Sites <sup>1</sup>	Direct overtime labor hours performed at a remote site. If other sites are used, provide each site on a separate line.
6.	7.	Overtime Offsite <sup>1</sup>	Direct overtime labor hours performed offsite.
6.	8.	Total Contractor Hours	Total contractor labor hours (sum of the six Direct Labor Hour subheadings: Figure 2.1-1, Lines 2-7).
6.	9.	Subcontractor Hours	P - Total labor hours for all the prime's subcontractors (excluding team members). S - Total labor hours for all the subcontractor's subcontractors.
6.	10.	Team Member Hours	P - Total labor hours by company for all the prime's team members. S - 0.
6.	11.	Total Hours	Total labor hours (sum of Total Contractor Hours, Subcontractor Hours and Team Member Hours: Figure 2.1-1, Lines 8-10).
6.	12.	Labor Dollars:	
6.	13.	Direct Labor \$ Onsite <sup>1</sup>	Cost of direct labor performed onsite.
6.	14.	Direct Labor \$ Other Sites <sup>1</sup>	Cost of direct labor performed at an "other" site. If other sites are used, provide each site on a separate line.
6.	15.	Direct Labor \$ Offsite <sup>1</sup>	Cost of direct labor performed offsite.
6.	16.	Total Labor \$	Total labor dollars (sum of Onsite, Remote Site, and Offsite Labor \$: Figure 2.1-1, Lines 13-15).
6.	17.	Onsite <sup>1</sup> Overhead	Onsite Overhead costs.
6.	18.	Other Sites <sup>1</sup> Overhead	Other Sites Overhead costs. If other sites are used, provide each site on a separate line.
6.	19.	Offsite <sup>1</sup> Overhead	Offsite Overhead costs.
6.	19a.	Total Overhead	Total overhead costs (sum of Onsite, Other sites, and Offsite overhead \$: Figure 2.1-1, lines 17-19).
6.	20.	Other Direct Charges:	Prime's charges only. Subcontract/Team ODC's are reported on Lines 27 and 30, respectively.

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
6.	21.	Material	Cost of material.
6.	22.	Travel	Cost of travel.
6.	23.	Overtime Premium	Overtime dollars generally carry no overhead.
6.	24.	Miscellaneous	Miscellaneous costs.
6.	25.	Other (description)	Costs associated with an additional specified ODC.
6.	26.	Total ODC	Total ODC for the prime contractor (sum of Material, Travel, Overtime Premium, Miscellaneous, and Other: Figure 2.1-1, Lines 21-25).
6.	27a.	Subcontractor \$	P - Total dollars for all the prime's subcontractors (excluding team members). S - Total dollars for all the subcontractor's subcontractors.
6.	27b.	Team Member \$	P - Team members' total costs by company. S - 0. Delete this entry if team members' costs are not burdened by full G&A.
6.	28.	Subtotal	Subtotal of costs (sum of Total Labor \$, Overhead, and Total ODC (Figure 2.1-1, Lines 16, 19, 26, 27a, and 27b).
6.	29.	G&A	Contractor's General and Administrative costs.
6.	30.	Team Member \$	P - Team members' total costs. S - 0. Delete this entry if team members' cost are burdened by full G&A.
6.	31.	Team Member Handling Charge	P - Prime contractor's handling charges for the team member(s). (This could be the prime's G&A rate if "team member's cost" is included in the Prime's Base of Distribution for G&A.) S - 0. Delete this entry if team members' cost are burdened by full G&A.
6.	32.	Total Costs	Total costs (sum of Subtotal, G&A, Team Member \$, and Team Member Handling Charges: Figure 2.1-1, Lines 28-31).
6.	33.	Base Fee	Base fee dollars.
6.	34.	Fixed Fee	Fixed fee dollars.
6.	35.	Award Fee	Award fee dollars.
6.	36.	Total Cost + Fees	Total cost and fees (sum of Total Costs, Base Fee, Fixed Fee, and Award Fee: Figure 2.1-1, Lines 32-35).

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
7.		<b>Cost Incurred and Hours Worked</b>	All cost and hour data shall be reported by the relevant categories listed under Item 6 above.
7a.		Actual During Month	For a single task, total actual cost incurred and hours worked during the accounting month being reported. For the overall contract summary, this is the sum of the individual tasks. Reflect the period actual dates in the column heading.
7b.		Planned During Month	For a single task, the planned (budgeted) cost and hours during the accounting month being reported. This data must match what was reported in column 8a of the previous month's report. For the overall contract summary, this is the sum of the individual tasks. The planned cost includes the original contract value plus authorized charges. Reflect period actual dates in the column heading.
7c.		Actual Cumulative to Date	For a single task, the cumulative actual cost incurred and hours worked as of the accounting month being reported. For the overall contract summary, this is the sum of the individual tasks. Reflect the period actual end date in the column heading.
7d.		Planned Cumulative to Date	For a single task, the planned (budgeted) cumulative to date cost and hours for the accounting month being reported. The data must match the sum of what was reported in column 7d of the previous report. For the overall contract summary, this is the sum of the individual tasks. The planned cost and hours includes the original contract value plus authorized charges. The plan to date consists of the sum of the budgets all work authorized that is scheduled for completion through the accounting month being reported. When the CTR is revised, value is reset to equal Cumulative Actual (column 7c). Reflect period actual end date in the column heading.
8.		<b>Estimate to Complete</b>	The <i>current</i> estimated cost and hours for performing currently authorized work included in the most recent Task Assignment amendment. <i>"Current" is defined as the most up-to-date estimate, not necessarily the CTR estimate for that period.</i> The estimates are used for planning purposes only and will not be binding on either the contractor or NASA.
8a.		Month + 1	For a single task, <i>current</i> estimated cost and hours data during the first month following the accounting month being reported. For the overall contract summary, this is the sum of the individual tasks. Reflect period actual dates in the column heading.
8b.		Month + 2	For a single task, <i>current</i> estimated cost and hours data during the first month following the accounting month being reported. For the overall contract summary, this is the sum of the individual tasks. Reflect period actual dates in the column heading.
8c.		Balance of Contract	For a single task, <i>current</i> estimated cost and hours data during the balance of the task excluding columns 8a and 8b. Unused cost and hours from current/past periods, that will be used later, should be included here. For the overall contract summary, this is the sum of the individual tasks. Reflect period actual dates in the column heading.



# CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
9.		<b>Estimated Final Cost and Hours:</b>	
9a.		Contractor Estimate	For a single task, the total estimated cost and hours for completion of the contracted effort (the sum of columns 7c, 8a, 8b and 8c). For the overall contract summary, this is the sum of the individual tasks. (For individual tasks, when this amount varies from the CTR Value in column 9b by more than the acceptable margin stated in the contract, the CTR must be revised and submitted to the government.)
9b.		Contract Value	The distribution of the current CTR for a single task and latest contract amendment for the Contract Summary. The total of this column shall agree with Item 3 above. This value will not change unless the CTR has been revised and submitted to the government. For the overall contract summary, this value will not change unless a contract option has been exercised, a cost growth executed, etc. Significant differences between columns 9a and 9b shall be explained under Item 11, "Remarks".
10.		<b>Unfilled Orders Outstanding</b>	<p>The total of unfilled orders outstanding as of the accounting month being reported. "Unfilled Orders Outstanding" is defined as the difference between the cumulative costs incurred to date and the amounts obligated to any sellers, including subcontracts, open purchase orders, and any other firm orders issued by the contractor or its subcontractors. Unfilled orders outstanding for the prime contractor, team members, and subcontractors may consist of the following examples:</p> <ul style="list-style-type: none"> <li>a. Open purchase orders, including negotiated changes, against which materials have not been received or services have not yet been rendered.</li> <li>b. The difference between a subcontractor's actual costs reported by the prime contractor and the fund limitations for the subcontractor.</li> </ul>
11.		<b>Remarks</b>	<p>These should include:</p> <ul style="list-style-type: none"> <li>a. Analytical remarks on significant items materially affecting historical or projected cost or performance.</li> <li>b. Breakdown of changes authorized but not finalized.</li> <li>c. New change orders.</li> </ul>
12.		<b>CTR Date</b>	For a single task, preparation date of the CTR Estimate reflected in column 9b. For the overall contract summary, leave blank.
13.		<b>Task Modification</b>	Modification letter of task amendment reflected in CTR estimate in column 9b (e.g. A, B, C, etc.). Note: This may not be the same amendment reflected in 1d, above. Leave blank if no amendment has been issued.

# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Form 533M

Prime / Subcontractor / Team Member

TO: NASA Goddard Space Flight Center Greenbelt Road Greenbelt, MD 20771		FROM: <u>Contracting Agency</u> <u>Address</u> <u>City, State, Zip</u>		1. Report For Month Ending and No. of Operational Days: <u>                    </u> (See P. 5, Item 2)					
1. DESCRIPTION OF CONTRACT	a. TYPE OF CONTRACT: (See P. 4, Item 1a)			3. CONTRACT VALUE A. COST \$ (See P. 5, Item 3) B. FEE \$ (Item 3)					
	b. CONTRACT AND LATEST AMENDMENT NO. (See P. 4, Item 1b)								
	c. TASK NO. (See P. 4, Item 1c)		d. TASK MOD. (See P. 4, Item 1d)	e. WBS NO. (See P. 4, Item 1e)	4. FUND LIMITATION A. COST \$ (See P. 5, Item 4) B. FEE \$ (Item 4)				
	f. TASK STATUS (See P. 5, Item 1f)		g. % OF EFFORT COMPLETE (See P. 5, Item 1g)						
h. SCOPE OF WORK (See P. 5, Item 1h)		i. AUTH. CONTRACT REP (See P. 5, Item 1i)		j. ATR NAME (See P. 5, Item 1j)					
k. DATE OF REPORT (See P. 5, Item 1k)		l. ATR CODE (See P. 5, Item 1l)		5. BILLING A. INVOICE AMT BILLED \$ (See P. 5, Item 5) B. TOTAL PYTS RECEIVED \$ (Item 5)					
6. REPORTING CATEGORY (See P. 5, Item 6)	7. COST INCURRED / HOURS WORKED DURING MONTH				8. ESTIMATE TO COMPLETE DETAIL				
	CUM TO DATE				(Days) to Balance of Contract				
	Actual (Days) to (Date) a.	Planned (Days) to (Date) b.	Actual (Months) to (Date) c.	Planned (Months) to (Date) d.	Month-1 (Days) to (Date) e.	Month-2 (Days) to (Date) f.			
						9. ESTIMATED FINAL COSTS / HOURS		10. Unfilled Orders Outstanding	
						Contractor Estimate a.	Contract Value b.		
1. Direct Labor Hours									
2. Straight-Time Onsite									
3. Straight-Time Other Site									
4. Straight-Time Offsite									
5. Overtime Onsite									
6. Overtime Other Site									
7. Overtime Offsite									
8. Total Contractor Hours									
9. Subcontractor Hours									
10. Team Member Hours									
11. TOTAL HOURS									
12. Labor Dollars									
13. Direct Labor \$ Onsite									
14. Direct Labor \$ Other Site									
15. Direct Labor \$ Offsite									
16. TOTAL LABOR \$		(See P. 8, Item 7a)	(See P. 8, Item 7b)	(See P. 8, Item 7c)	(See P. 8, Item 7d)	(See P. 8, Item 7e)	(See P. 8, Item 7f)	(See P. 8, Item 7g)	(See P. 8, Item 7h)
17. Onsite Overhead									
18. Other Site Overhead									
19. Offsite Overhead									
19a. TOTAL OVERHEAD									
20. Other Direct Charges									
21. Material									
22. Travel									
23. Overtime Premium									
24. Miscellaneous									
25. Other									
26. Total ODC									
27a. Subcontractor \$									
27b. Team Member \$									
28. Subtotal									
29. G&A									
30. Team Member \$									
31. Team Member Handling Charges									
32. Total Costs									
33. Base Fee									
34. Fixed Fee									
35. Award Fee									
36. TOTAL COST + FEES									

11. Remarks:

(See P. 9, Item 11)

12. CTR Dates:

(See P. 9, Item 12)

13. Task Modifications:

(See P. 9, Item 13)

FIGURE 2.1-1 NASA Form 533M (Blank Form)

# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Form 533M

Prime

TO: NASA Goddard Space Flight Center Greenbelt Road Greenbelt, MD 20771				FROM: A1 Engineers, Inc. 1234 Fifth Street Greenbelt, MD 20770				2. Report For Month Ending and No. of Operational Days: September 30, 1992 (23 Days)				
1. DESCRIPTION OF CONTRACT		a. TYPE OF CONTRACT: CFAF b. CONTRACT AND LATEST AMENDMENT NO. NAS5-54321 Mod 21						3. CONTRACT VALUE A. COST \$ 76,471,650 B. FEE \$ 2,724,052				
		c. TASK NO. SUMMARY		d. TASK MOD.		e. WBS NO.		f. TASK STATUS		g. % OF EFFORT COMPLETE		
		h. SCOPE OF WORK Engineering Support				i. AUTH. CONTRACT REP J. Doe		k. ATR NAME		l. ATR CODE		
		m. DATE OF REPORT October 16, 1992						4. FUND LIMITATION A. COST \$ 50,000,000 B. FEE \$ 2,000,000 5. BILLING A. INVOICE AMT BILLED \$ 35,500,000 B. TOTAL PYTS RECEIVED \$ 33,900,100				
6. REPORTING CATEGORY		7. COST INCURRED / HOURS WORKED				8. ESTIMATE TO COMPLETE				9. ESTIMATED FINAL		10. Unfilled Orders Outstanding
		DURING MONTH		CUM TO DATE		DETAIL		COSTS / HOURS				
		Actual 9/1/92 to 9/30/92 a.	Planned 9/1/92 to 9/30/92 b.	Actual thru 9/30/92 c.	Planned thru 9/30/92 d.	Month 1 10/1/92 to 10/31/92 e.	Month 2 11/1/92 to 11/30/92 f.	12/1/92 to Balance of Contract c.	Contract Estimate a.	Contract Value b.		
Direct Labor Hours Straight-Time Onsite Straight-Time Remote Site Straight-Time Office Overtime Onsite Overtime Remote Site Overtime Office Total Contractor Hours Subcontractor Hours Team Member Hours TOTAL HOURS		4,712 0 8,500 29 0 85 13,326 3,569 6,664 23,559	6,596 0 10,231 0 0 0 16,829 3,520 8,415 28,764	120,734 0 170,280 85 0 2,795 293,896 336,238 316,452 579,481	139,235 0 196,853 0 0 150 336,238 336,452 316,452 620,809	8,850 0 10,650 0 0 0 19,500 3,011 9,750 32,261	3,123 0 6,937 0 0 0 12,080 8,351 6,041 26,672	23,963 0 30,621 0 0 0 54,609 21,009 27,305 102,923	158,697 0 218,508 83 0 2,795 380,085 170,127 190,044 740,256	340,631 0 223,948 100 0 3,456 468,117 280,601 234,059 982,777		
Labor Dollars Direct Labor \$ Onsite Direct Labor \$ Remote Site Direct Labor \$ Office TOTAL LABOR \$ Onsite Overhead Remote Site Overhead Office Overhead TOTAL OVERHEAD Other Direct Charges Material Travel Overtime Premium Miscellaneous Other Total ODC Subcontractor \$ Subtotal		205,987 0 197,365 403,352 111,555 156,444 267,999 673,230 10,560 615 55,480 0 741,885 220,980 1,634,216	236,978 0 233,436 490,434 127,650 213,921 341,571 682,196 5,390 0 180,630 0 868,216 249,230 1,949,471	3,504,789 0 4,681,681 8,186,670 1,463,551 3,987,220 5,450,771 6,501,914 115,941 14,621 760,305 0 7,390,781 9,764,351 30,792,373	2,700,654 0 4,250,650 6,951,304 1,466,908 3,003,351 4,670,259 751,645 93,223 925 1,325,996 0 2,373,789 8,555,231 22,550,583	460,877 0 280,551 741,428 254,123 343,632 497,755 227,156 3,250 0 1,500 0 231,906 187,221 1,658,310	362,665 0 623,110 985,775 553,944 579,412 1,133,456 350,250 1,300 0 250 0 352,000 325,441 2,796,672	986,005 0 875,006 1,861,011 459,841 804,621 1,264,462 2,300,600 29,500 0 65,980 0 2,396,080 1,350,058 6,871,611	5,314,336 0 6,460,348 11,774,684 2,731,459 5,614,985 8,346,444 9,379,920 148,191 14,621 828,015 0 10,370,767 11,627,071 42,118,966	6,141,660 0 6,865,441 13,007,101 3,650,211 576,266 4,226,477 10,520,000 160,000 16,980 920,000 0 11,616,980 13,856,090 42,706,648	15,000 0 0 0 0 0 0 0 0 0 0 0 15,000 0 15,000	
G&A Team Member \$ Team Member Handling Charges Total Costs Base Fee Fixed Fee Award Fee TOTAL COST + FEES		2,132 741,828 7,200 2,385,176 37,550 0 120,650 2,543,976	2,143 892,617 7,050 2,831,281 43,647 0 132,390 3,027,558	76,354 11,032,038 9,303 41,910,268 846,123 0 1,043,541 43,819,932	69,221 7,347,076 9,988 29,976,868 951,634 0 2,345,397 33,273,910	3,111 772,323 6,950 2,440,694 29,548 0 112,321 2,582,563	5,136 1,297,397 7,065 4,106,270 34,625 0 82,698 4,823,393	14,631 2,933,456 35,620 9,855,318 90,511 0 460,558 10,406,387	99,232 16,000,571 59,138 58,277,907 1,000,807 0 1,719,118 60,997,832	120,950 15,155,459 62,563 58,045,620 1,010,541 0 1,713,511 62,769,672	15,000 0 0 15,000 0 0 0 15,000	

11. Remarks:

This report includes data from the following new CATS: 115, 120, and 154

12. CATS Date:

13. Task Modifications:

FIGURE 2.1-2 NASA Form 533M (Contract Summary Example)

# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Form 533M

Prime

<b>TO:</b> NASA Goddard Space Flight Center Greenbelt Road Greenbelt, MD 20771				<b>FROM:</b> AI Engineers 1234 Fifth Street Greenbelt, MD 20771				<b>1. Report For Month Ending and No. of Operational Days:</b> October 31, 1993 (31 Days)													
<b>1. DESCRIPTION OF CONTRACT</b>				<b>a. TYPE OF CONTRACT:</b> CFAF				<b>3. CONTRACT VALUE</b> A. COST \$ 12,745,275 B. FEE \$ 454,009													
				<b>b. CONTRACT AND LATEST AMENDMENT NO.</b> NAS5-40921 Mod 21				<b>4. FUND LIMITATION</b> COST and FEE \$ 15,500,000													
				<b>c. TASK NO.</b> 155		<b>d. TASK MOD.</b> B		<b>e. WBS NO.</b>		<b>f. TASK STATUS</b> Active		<b>g. % OF REPORT COMPLETE</b> 29%									
				<b>h. SCOPE OF WORK</b> XTE IGSE				<b>i. AUTH. CONTRACT REP</b> J. Doe		<b>j. ATR NAME</b> J. Smith		<b>k. ATR CODE</b> 561									
<b>4. REPORTING CATEGORY</b>				<b>7. COST INCURRED / HOURS WORKED</b>				<b>8. ESTIMATE TO COMPLETE</b>				<b>9. ESTIMATED FINAL COSTS / HOURS</b>		<b>10. Unfilled Orders Outstanding</b>							
				<b>DURING MONTH</b>				<b>CUM TO DATE</b>				<b>DETAIL</b>									
				<b>Actual</b> 10/1/93 to 10/31/93 a.		<b>Planned</b> 10/1/93 to 10/31/93 b.		<b>Actual</b> thru 10/31/93 c.		<b>Planned</b> thru 10/31/93 d.		<b>Month-1</b> 11/1/93 to 11/30/93 e.		<b>Month-2</b> 12/1/93 to 12/31/93 f.		<b>11/94 to</b> Balance of Contract c.		<b>Contractor Estimate</b> a.		<b>Contract Value</b> b.	
Direct Labor Hours				1,178		1,100		20,123		23,286		1,473		854		3,998		26,430		40,104	
Straight-Time Onsite				0		0		0		0		0		0		0		0		0	
Straight-Time Remote Site				0		0		0		0		0		0		0		0		0	
Straight-Time Office				1,417		1,705		28,390		32,809		1,779		1,160		5,104		36,418		37,323	
Overtime Onsite				5		0		14		0		0		0		0		14		17	
Overtime Remote Site				0		0		0		0		0		0		0		0		0	
Overtime Office				14		0		466		23		0		0		0		466		576	
Total Contractor Hours				2,614		2,805		48,983		56,040		3,250		2,014		9,102		63,348		78,020	
Subcontractor Hours				595		587		22,936		32,742		302		1,425		8,102		25,437		46,767	
Team Member Hours				2,221		2,805		16,328		18,679		1,084		2,014		3,034		22,458		26,007	
<b>TOTAL HOURS</b>				5,430		6,197		88,237		127,461		4,836		5,453		12,720		111,243		150,794	
Labor Dollars																					
Direct Labor \$ Onsite				34,331		42,830		584,152		450,109		76,813		60,444		164,334		845,723		1,023,610	
Direct Labor \$ Remote Site				0		0		0		0		0		0		0		0		0	
Direct Labor \$ Office				32,894		38,909		780,280		708,442		46,759		103,832		145,834		1,076,725		1,144,240	
<b>TOTAL LABOR \$</b>				67,225		81,739		1,364,432		1,158,551		123,572		164,276		310,168		1,962,448		2,167,850	
Onsite Overhead				18,539		23,128		315,431		243,059		41,479		32,640		88,740		478,290		552,749	
Remote Site Overhead				0		0		0		0		0		0		0		0		0	
Office Overhead				25,986		30,738		616,421		559,669		36,940		82,043		115,208		850,613		903,950	
<b>TOTAL OVERHEAD</b>				44,525		53,866		931,852		802,728		78,419		114,683		203,949		1,328,903		1,456,699	
Other Direct Charges																					
Material				112,538		113,699		1,083,632		125,274		37,859		38,375		383,433		1,563,320		1,733,333	
Travel				1,760		898		18,990		15,371		542		250		4,917		24,699		26,667	
Overtime Premium				103		0		2,437		154		0		0		0		2,437		2,830	
Miscellaneous				9,247		30,105		126,718		254,333		250		42		10,997		138,006		153,333	
Other				0		0		0		0		0		0		0		0		0	
<b>Total ODC</b>				123,648		144,702		1,231,797		395,632		38,651		58,667		399,347		1,728,462		1,936,163	
Subcontractor \$				36,830		41,542		1,627,392		1,425,872		31,204		54,240		225,010		1,937,843		2,309,348	
<b>Subtotal</b>				272,228		321,849		5,155,453		3,782,783		271,846		391,886		1,138,474		6,957,658		7,870,060	
G&A				13,611		16,092		257,773		189,139		13,392		19,594		56,924		347,883		393,503	
Team Member \$				83,513		98,109		1,242,683		824,930		84,224		255,528		319,712		2,001,149		1,956,209	
Team Member Handling Charges				2,088		2,453		31,067		20,623		2,106		6,363		7,993		50,029		48,905	
<b>Total Costs</b>				571,440		638,504		6,686,976		4,817,475		371,768		672,371		1,523,103		9,356,719		10,368,677	
Bonus Fee				0		0		0		0		0		0		0		0		0	
Fixed Fee				0		0		0		0		0		0		0		0		0	
Award Fee				37,144		43,850		668,698		481,748		37,177		67,237		152,310		935,672		1,026,868	
<b>TOTAL COST + FEES</b>				608,584		682,354		7,355,674		5,299,223		608,944		739,608		1,675,413		10,292,391		11,295,545	

11. Remarks:

12. CTR Date:

7/15/93

13. Task Modification:

B

CATS Interface Specification

FIGURE 2.1-3 NASA Form 533M (Single Task Example)

## 2.2 Contractor Workforce Report

The Contractor Workforce Report is a monthly summary of all contractor employees (both prime contractor and team members) that have worked on the contract during the reporting period. It consists of up to four sections: (1) on-site employees, (2) off-site employees, (3) other sites employees and (4) status changes. If a contractor does not have an "other" site, that site can be omitted. The site sections list the employees, by name, that have worked on the contract; their position category title; location; phone; organization code supported; skill code; the task number(s) supported; the number of hours charged to each task; and remarks. The data corresponds to and covers the same monthly accounting period as the NF533M Report.

The Contractor Workforce Report form is illustrated in Figure 2.2-1. An example of a completed Contractor Workforce Report is shown in Figure 2.2-2.

The following is a detailed description of the Contractor Workforce Report. (The Item # below refers to the circled number in Figure 2.2-1):

<u>Item #</u>	<u>Item</u>	<u>Description</u>
1.	Company Name	Name of prime contractor or subcontractor submitting the report.
2.	Contract Number	The prime contract number.
3.	Address, City, State, Zip	
4.	Phone Number	Include area code with phone number.
5.	Period	The beginning and ending date of the contractor's accounting month (same period as NF533M report).
6.	Operating Hours	Number of operating hours for the accounting month.
7.	Prime, Team, or Subcontractor	Denotes who is submitting the report.
8.	Onsite <sup>1</sup> Workforce	Lists the onsite <sup>1</sup> personnel who worked on the contract during the accounting month.
9.	Employee Name	Complete name of the employee.
10.	Position Category	Job Category as defined in Table 3.3-1.
11.	Location	Onsite <sup>1</sup> , Offsite <sup>2</sup> , or Remote Site <sup>3</sup> location the employee is housed.
12.	Phone	Employee's phone number.
13.	Skill Code	Employee's skill code as used in LISTS: SE = Scientist/Engineer PA = Professional Administrative C = Clerical T = Technician
14.	Org	GSFC organization code supported.

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Item Task #</u>	<u>Description</u>
15.		Task number(s) the employee worked on. Subcontractors use the GSFC task number (do not include the prime's subtask number).
16.	Hours	Number of hours worked during the accounting month, to tenths of hours.
17.	Remarks	Remarks for the current period.
18.	Offsite <sup>1</sup> Workforce	Lists (as described in Items 9-17 above) the Offsite <sup>1</sup> personnel who worked on the contract during the accounting month
19.	Other Sites <sup>1</sup> Workforce	Lists (as described in Items 9-17 above) Other Sites <sup>1</sup> personnel who worked on the contract during the accounting month by site.
20.	Status Changes	Lists employees whose status has changed since the last report.

<sup>1</sup>See glossary, Section 1.1

# WORKFORCE REPORT

- ① Company Name    ② Contract Number  
 ③ Address, City, State, Zip  
 ④ Phone Number  
 ⑤ Period: (date)    ⑥ Operating Hours: (number)  
 ⑦ (Prime or Subcontractor/Team Member)

## ⑧ ONSITE WORKFORCE

Employee Name	Position Category	Location	Phone	Site Code	City	Task #	Hours	Remarks
⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰

## ⑱ OFFSITE WORKFORCE

Employee Name	Position Category	Location	Phone	Site Code	City	Task #	Hours	Remarks

## ⑲ OTHER SITE WORKFORCE

Employee Name	Position Category	Location	Phone	Site Code	City	Task #	Hours	Remarks

## ⑳ STATUS CHANGES

Employee Name	Position Category	New Task #	Change From Task #	Change To Task #	Change From City	Change To City	Change From Hours	Change To Hours	Let Employee Stay	Moved Offsite	GSFC Access No Longer Valid

FIGURE 2.2-1 NASA Form 533M (Single Task Example)



Period: June 1-30, 1995      Operating Hours: 176  
Prime

**ONSITE WORKFORCE**

Employee Name	Position Category	Location	Phone	Shift Code	Task #	Hours	Remarks
Anderson, John R.	Electrical Engineer	BL 11, Rm. E66	x1234	SE	23	24.5	Does not have badge on this contract
Davis, Mary A.	Materials Technician	BL 11, Rm. E2	x8012	T	56	61.0	
Foster, Edward P.	Systems Engineer	BL 16W, Rm. 42	x0550	SE	121	178.0	
					79-2	1.6	
					183	85.0	
					534	247	
Moore, Alan P.	Systems Engineer	BL 6, Rm. S112	x9876	SE	176	81.5	
					191	18.0	

## OFFSITE WORKFORCE

Employee Name	Position Category	Location	Employee Number	Bill Code	Task #	Hours	Remarks
Collins, Harold E.	Electrical Engineer	Seabrook	123-7222	SE	160	67.5	
					722	21.0	
					722	181	
					202	70.5	
					5	178.0	
Johnson, James J.	C&DH Engineer	Bethaville	123-5555	SE	735		
Marrin, Helen L.	Administrative Assistant	Seabrook	123-7777	PA	734	8.5	
Smith, Samuel S.	Sr. Thermal Technician	Seabrook	123-8888	T	734	20	
					724	18	
					724	92	
					724	52.0	
					144	45.5	
					216	2.5	
							Name changed from North, Helen L.

## OTHER SITE WORKFORCE

[illegible]

## STATUS CHANGES

Employee Name	Position Category	Last Date Worked at BSA	Crossed Out Date SGC Access	Crossed Out Reason	Moved Outside	SGC Access No Longer Valid
Ash, Alan K.	Electrical Engineer	X	X			
Edwards, Kevin L.	Harness Designer	X	X			
Hughes, Robert H.	Software Engineer				X	
Marlin, Helen L.	Administrative Assistant				X	

**FIGURE 2.2-2 Contractor Workforce Report (Example)**



### 2.3 Contractor Task Report (CTR)

The Contractor Task Report (CTR) is a projection of costs over the *lifetime* of the task, and is presented when the task is first initiated, subsequently modified, or if estimated cost at completion varies from the CTR by more than the acceptable variance margin stated in the contract. The CTR contains the labor position categories, labor hours, and burdened costs for each month of the task's performance period. The Remarks portion of the CTR includes items such as the name of a subcontractor, description of materials charges planned, description of non-local travel charges planned, etc. Also included in the Remarks is the reason for the CTR, i.e., original baseline estimate, work added to scope, extension of performance period, etc.

The Contractor Task Report form is illustrated in Figure 2.3-1. An example of a completed Contractor Task Report is shown in Figure 2.3-2.

The following is a detailed description of the Contractor Task Report (refer to Figure 2.3-1):

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
1.		Contract Number	Complete letter or contract symbol, number, and number of latest amendment. Subcontractors use the prime contract number.
2.		Contractor Name	Contractor name and address.
3.		Date	Date of CTR preparation.
4.		Originator	Name of contract employee responsible for the estimate information contained in the CTR.
5.		Place of Performance	Place of performance (e.g., NASA GSFC).
6.		ATR Name	Name of the government's Authorized Technical Representative, also referred to as the task monitor.
6a.		ATR Code	GSFC Organization Code for the ATR
7.		Task Description	Brief description of the individual task effort.
8.		Task Number	Task number as stated on the Task Assignment, GSFC 18-45. If a subcontractor CTR, task assignment number shall agree with that of the prime contractor.
8A.		Task Modification	Modification letter of current amendment (e.g., A, B, C, etc.). Leave blank if no amendment has been issued.
9.		WBS Number	Work Breakdown Structure Number, if applicable.
10.		Task Start Date	Task start date as specified in the Task Assignment, GSFC 18-45.
11.		Continuation Y/N	Indicate whether task is a continuation, Y if another page follows.
12.		Task End Date	Task end date as specified in the Task Assignment, GSFC 18-45.

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
13.		<b>Reporting Category:</b>	Note: The number of reporting categories is flexible
13.	1.	Job Category n	Estimated number of hours for each of the prime's job categories planned, as specified in the contract.
13.	2.	Onsite <sup>1</sup> Hours	Total of the prime's onsite hours for all job categories.
13.	3.	Other Sites <sup>1</sup> Hours	Total of the prime's other site hours for all job categories. If other sites are used, provide each site on a separate line.
13.	4.	Offsite <sup>1</sup> Hours	Total of the prime's offsite hours for all job categories.
13.	5.	Subcontractor n Hours	P - Estimated number of hours planned for each of the prime's subcontractors, by company name (excluding team members). S - Estimated number of hours planned for each of the subcontractor's subcontractors, by company name.
13.	6.	Team Member n Hours	P - Estimated number of hours planned for each of the prime's team members, by company name. S - 0.
13.	7.	Total Hours	Total of all hours, (sum of Prime, Subcontractor, and Team Member Hours: Figure 2.3-1, Lines 2-6).
13.	8.	Material \$	Cost of material.
13.	9.	Travel \$	Cost of Travel.
13.	10.	Miscellaneous \$	Miscellaneous costs.
13.	11.	Subcontractor n \$	P - Total cost (dollars) for each of the prime's subcontractors, by company name (excluding team members). S - Total cost (dollars) for each of the subcontractor's subcontractors, by company name.
13.	12.	Team Member \$	P - Labor cost (dollars) of labor hours for each of the prime's team members. S - 0.
13.	13.	Direct Labor \$	P - Labor cost (dollars) of labor hours for the prime. S - Labor cost (dollars) of labor hours for the subcontractor.
13.	14.	Subtotal Cost	Total of unburdened costs (sum of Figure 2.3-1, Lines 8-13).
13.	15.	Total Burdened Costs	Total burdened costs projected (including Overhead, G&A, Team Member Handling, and Base/Fixed/Award Fee).

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
14.		<b>Cost Estimate</b>	
14a.		Month 1	Hours and costs projected for the first month of the task or first month following the previous accounting month if a revised estimate for an on-going task.
14b.		Month 2	Hours and costs projected for the second month of the task or second month following the previous accounting month if a revised estimate for an on-going task.
14l.		Month n	Hours and costs projected for the Nth month of the task or the Nth month following the previous accounting month if a revised estimate for an on-going task. Continue estimate on a 2nd page (or more) if estimate spans more than one year.
14m.		Total	Horizontal total of planned hours and costs (Figure 2.3-1, Lines 1-15).
15.		<b>Rate/Hour</b>	Hourly rate for each of the prime's planned job categories.
16.		<b>Estimated Cost</b>	
16a.		Onsite <sup>1</sup> Cost	Total onsite labor dollars for each of the prime's job categories (Figure 2.3-1, Line 1).
16b.		Other Site A <sup>1</sup> Cost	Total other site A labor dollars for each of the prime's job categories (Figure 2.3-1, Line 1).
16c.		Offsite <sup>1</sup> Cost	Total offsite labor dollars for each of the prime's job categories (Figure 2.3-1, Line 1).
16c.		Other Site B <sup>1</sup> Cost	Total other site B labor dollars for each of the prime's job categories (Figure 2.3-1, Line 1).
17.		<b>Cumulative Actual</b>	Cumulative actual hours and dollars through the previous accounting period for each reporting category (Figure 2.3-1, Lines 1-12).
18.		<b>Total Direct Labor</b>	
18a.		Total Direct Labor Onsite <sup>1</sup>	Total onsite labor dollars (Figure 2.3-1, sum of Line 1a).
18b.		Total Direct Labor Other Site A <sup>1</sup>	Total other site A labor dollars (Figure 2.3-1, sum of Line 1b).
18c.		Total Direct Labor Offsite <sup>1</sup>	Total offsite labor dollars (Figure 2.3-1, sum of Line 1c).
18d.		Total Direct Labor Other Site B <sup>1</sup>	Total other site B labor dollars (Figure 2.3-1, sum of Line 1c).
18e.		Total Direct Labor Cum Actual thru (Date)	Total cumulative actual labor dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
19.		<b>Overhead</b>	Reflect the onsite, remote site, offsite, and Mnfsite overhead rates, as a percentage to tenths of percent.
19a.		Overhead Onsite <sup>1</sup>	Total onsite overhead dollars (overhead rate applied to total onsite direct labor dollars (Figure 2.3-1, Line 18a).

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
19b.		Overhead Other Site A <sup>1</sup>	Total other site A overhead dollars overhead rate applied to total other site A direct labor dollars (Figure 2.3-1, Line 18b).
19c.		Overhead Offsite <sup>1</sup>	Total offsite overhead dollars overhead rate applied to total offsite direct labor dollars (Figure 2.3-1, Line 18c).
19d.		Overhead Other Site B <sup>1</sup>	Total other site B overhead dollars overhead rate applied to total other site B direct labor dollars (Figure 2.3-1, Line 18c).
19e.		Overhead Cum Actual thru (Date)	Total cumulative actual overhead dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
20.		<b>Overtime Premium</b>	
20a.		Overtime Premium Onsite <sup>1</sup>	Total onsite overtime premium.
20b.		Overtime Premium Other Site A <sup>1</sup>	Total other site A overtime premium.
20c.		Overtime Premium Offsite <sup>1</sup>	Total offsite overtime premium.
20d.		Overtime Premium Other Site B <sup>1</sup>	Total other site B overtime premium.
20e.		Overtime Premium Cum Actual thru (Date)	Total cumulative actual overtime premium through the previous accounting period. Reflect previous accounting period end date in the column heading.
21.		<b>Materials</b>	
21d.		Materials	Total planned materials cost (Figure 2.3-1, sum of Line 8a-8l).
21e.		Materials Cum Actual thru (Date)	Total cumulative actual materials cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
22.		<b>Travel</b>	
22d.		Travel	Total planned travel cost (Figure 2.3-1, sum of Line 9a-9l).
22e.		Travel Cum Actual thru (Date)	Total cumulative actual travel cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
23.		<b>Other</b>	
23d.		Other	Total planned other ODC cost (Figure 2.3-1, sum of Line 10a-10l).
23e.		Other Cum Actual thru (Date)	Total cumulative actual other ODC cost through the previous accounting period. Reflect previous accounting period end date in the column heading.

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

Item #	Line #	Item	Description
24.		<b>Subcontracts</b>	
24d.		Subcontracts	Total planned subcontracts cost (Figure 2.3-1, sum of Line 11a-11l).
24e.		Subcontracts Cum Actual thru (Date)	Total cumulative actual subcontracts cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
25.		<b>Subtotal</b>	
25a.		Subtotal Onsite <sup>1</sup>	Subtotal of onsite costs (Figure 2.3-1, sum of Lines 18a-24a).
25b.		Subtotal Other Site A <sup>1</sup>	Subtotal of other site A costs (Figure 2.3-1, sum of Lines 18b-24b).
25c.		Subtotal Offsite <sup>1</sup>	Subtotal of offsite costs (Figure 2.3-1, sum of Lines 18c-24c).
25d.		Subtotal Other Site B <sup>1</sup>	Subtotal of other site B costs (Figure 2.3-1, sum of Lines 18d-24d).
25e.		Subtotal Cum Actual thru (Date)	Subtotal of cumulative actual costs (Figure 2.3-1, sum of Lines 18e-24e). Reflect previous accounting period end date in the column heading.
26.		<b>G&amp;A</b>	Reflect the G&A rate, as a percentage to tenths of percent.
26a.		G&A Onsite <sup>1</sup>	Total onsite G&A dollars (G&A rate applied to Subtotal On-Site Costs, Figure 2.3-1, Line 25a).
26b.		G&A Other Site A <sup>1</sup>	Total other site A G&A dollars (G&A rate applied to Subtotal Other Site A Costs, Figure 2.3-1, Line 25b).
26c.		G&A Offsite <sup>1</sup>	Total offsite G&A dollars (G&A rate applied to Subtotal Off-Site Costs, Figure 2.3-1, Line 25c).
26d.		G&A Other Site B <sup>1</sup>	Total other site B G&A dollars (G&A rate applied to Subtotal Other Site B Costs, Figure 2.3-1, Line 25d).
26e.		G&A Cum Actual thru (Date)	Total cumulative actual G&A dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
27.		<b>Team Members</b>	
27d.		Team Members	Total planned team members cost (Figure 2.3-1, sum of Line 12).
27e.		Team Members Cum Actual thru (Date)	Total cumulative actual team members cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
28.		<b>Team Members Handling</b>	Reflect the Team Members Handling rate, as a percentage to tenths of percent.
28d.		Team Members Handling	Total team members handling cost (team members handling rate rate applied against team members cost, Figure 2.3-1, Line 27c).
28e.		Team Members Handling Cum Actual thru (Date)	Total cumulative actual team members handling cost through the previous accounting period. Reflect previous accounting period end date in the column heading.

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
29.		<b>Total Estimated Cost</b>	
29a.		Total Estimated Cost Onsite <sup>1</sup>	Total onsite costs (Figure 2.3-1, sum of Lines 25a-28a).
29b.		Total Estimated Cost Other Site A <sup>1</sup>	Total other site A costs (Figure 2.3-1, sum of Lines 25b-28b).
29c.		Total Estimated Cost Offsite <sup>1</sup>	Total offsite costs (Figure 2.3-1, sum of Lines 25c-28c).
29d.		Total Estimated Cost Other Site B <sup>1</sup>	Total other site B costs (Figure 2.3-1, sum of Lines 25d-28d).
29e.		Total Estimated Cost Cum Actual thru (Date)	Total cumulative actual cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
30.		<b>Base Fee</b>	Reflect the base fee rate, as a percentage to tenths of percent.
30a.		Base Fee Onsite <sup>1</sup>	Onsite base fee dollars (base fee rate applied against Total Estimated Cost Onsite, Figure 2.3-1, Line 29a).
30b.		Base Fee Other Site A <sup>1</sup>	Other site A base fee dollars (base fee rate applied against Total Estimated Cost Other Site A, Figure 2.3-1, Line 29b).
30c.		Base Fee Offsite <sup>1</sup>	Offsite base fee dollars (base fee rate applied against Total Estimated Cost Offsite, Figure 2.3-1, Line 29c).
30d.		Base Fee Other Site B <sup>1</sup>	Other site B base fee dollars (base fee rate applied against Total Estimated Cost Other Site B, Figure 2.3-1, Line 29d).
30e.		Base Fee Cum Actual thru (Date)	Cumulative actual base fee dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
31.		<b>Fixed Fee</b>	Reflect the fixed fee rate, as a percentage to tenths of percent.
31a.		Fixed Fee Onsite <sup>1</sup>	Onsite fixed fee dollars (fixed fee rate applied against Total Estimated Cost Onsite, Figure 2.3-1, Line 29a).
31b.		Fixed Fee Other Site A <sup>1</sup>	Other site A fixed fee dollars (fixed fee rate applied against Total Estimated Cost Other Site A, Figure 2.3-1, Line 29b).
31c.		Fixed Fee Offsite <sup>1</sup>	Offsite fixed fee dollars (fixed fee rate applied against Total Estimated Cost Offsite, Figure 2.3-1, Line 29c).
31d.		Fixed Fee Other Site B <sup>1</sup>	Other site B fixed fee dollars (fixed fee rate applied against Total Estimated Cost Other Site B, Figure 2.3-1, Line 29d).
31e.		Fixed Fee Cum Actual thru (Date)	Cumulative actual fixed fee dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
32.		<b>Award Fee</b>	Reflect the award fee rate, as a percentage to tenths of percent.
32a.		Award Fee Onsite <sup>1</sup>	Onsite award fee dollars (award fee rate applied against Total Estimated Cost Onsite, Figure 2.3-1, Line 29a).
32b.		Award Fee Other Site A <sup>1</sup>	Other site A award fee dollars (award fee rate applied against Total Estimated Cost Other Site A, Figure 2.3-1, Line 29b).

<sup>1</sup>See glossary, Section 1.1

# CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
32c.		Award Fee Offsite <sup>1</sup>	Offsite award fee dollars (award fee rate applied against Total Estimated Cost Offsite, Figure 2.3-1, Line 29c).
32d.		Award Fee Other Site B <sup>1</sup>	Other Site B award fee dollars (award fee rate applied against Total Estimated Cost Other Site B, Figure 2.3-1, Line 29d).
32e.		Award Fee Cum Actual thru (Date)	Cumulative actual award fee dollars through the previous accounting period. Reflect previous accounting period end date in the column heading.
33.		<b>Estimated Cost Plus Award Fee</b>	
33a.		Estimated Cost Plus Award Fee Onsite <sup>1</sup>	Total estimated onsite cost plus award fee (Figure 2.3-1, Lines 29a-32a).
33b.		Estimated Cost Plus Award Fee Other Site A <sup>1</sup>	Total estimated other site A cost plus award fee (Figure 2.3-1, Lines 29b-32b).
33c.		Estimated Cost Plus Award Fee Offsite <sup>1</sup>	Total estimated offsite cost plus award fee (Figure 2.3-1, Lines 29c-32c).
33d.		Estimated Cost Plus Award Fee Other Site B <sup>1</sup>	Total estimated other site B cost plus award fee (Figure 2.3-1, Lines 29d-32d).
33e.		Estimated Cost Plus Award Fee Cum Actual thru (Date)	Total cumulative actual cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
34.		<b>Total Estimated Cost</b>	
34a.		Total Estimated Cost	Total estimated cost excluding cumulative actual to date. (Sum of Onsite, Other Site A, Offsite, and Other Site B Estimated Cost Plus Award Fee: Figure 2.3-1, Lines 33a-33d).
34b.		Total Estimated Cost Cumulative Actual thru (Date)	Total cumulative actual cost through the previous accounting period. Reflect previous accounting period end date in the column heading.
35.		<b>Task Estimate Grand Total</b>	Total estimated cost for the task. (Sum of Line 34a and 34b)

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item</u> <u>#</u>	<u>Line</u> <u>#</u>	<u>Item</u>	<u>Description</u>
36.		Remarks	<p>These should include:</p> <ul style="list-style-type: none"><li>a. Analytical remarks on significant items materially affecting historical or projected cost or performance.</li><li>b. Breakdown of changes authorized but not finalized.</li><li>c. New change orders.</li><li>d. Reason the CTR is being submitted.</li></ul> <p>For example:</p> <ul style="list-style-type: none"><li>• original baseline estimate (first CTR)</li><li>• work added to scope (via 155A)</li><li>• &gt;+10% cost estimate</li><li>• close-out CTR</li><li>• revision of CTR dated 3/25/95, which was rejected by ATR</li></ul> <ul style="list-style-type: none"><li>e. Description of materials charges planned</li><li>f. Description of non-local travel charges planned</li><li>g. Subcontractors names</li><li>h. etc.</li></ul>



(Prime, Subcontractor, or Team Member)

1 CONTRACT NUMBER						(See P. 17, Item 1)								2. CONTRACT NAME: (See P. 17, Item 2)						3. DATE: (See P. 17, Item 3)											
4 ORIGINATOR:						(See P. 17, Item 4)								5. PLACE OF PERFORMANCE: (See P. 17, Item 5)						6. GOVT. ATR NAME (See P. 17, Item 6)						6a. ATR CODE (See P. 17, Item 6a)					
7 TASK DESCRIPTION:						(See P. 17, Item 7)								8. TASK NUMBER (See P. 17, Item 8)						9a. TASK MOD. (See P. 17, Item 9a)						9. WBS NUMBER (See P. 17, Item 9)					
														10. TASK START DATE: (See P. 17, Item 10)						11. CONTINUATION (Y/N): (See P. 17, Item 11)						12. TASK END DATE: (See P. 17, Item 12)					
13. REPORTING CATEGORY  (See P. 18, Item 13) Job Category 1 Job Category 2 Job Category N						14. COST ESTIMATE												15. \$ Rate/ Hour		16. ESTIMATED COST				17. Cam Actual thr (Date)							
						a	b	c	d	e	f	g	h	i	j	k	l			m	n										
						Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	TOTAL	\$ Rate/ Hour		Onsite	Other site A	Offsite	Other site B							
						Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec	Sec		Sec	Sec	Sec	Sec	Sec						
						P. 19, Item 14a	P. 19, Item 14b	P. 19, Item 14c	P. 19, Item 14d	P. 19, Item 14e	P. 19, Item 14f	P. 19, Item 14g	P. 19, Item 14h	P. 19, Item 14i	P. 19, Item 14j	P. 19, Item 14k	P. 19, Item 14l	P. 19, Item 14m	P. 19, Item 15		P. 19, Item 16a	P. 19, Item 16b	P. 19, Item 16c	P. 19, Item 16d	P. 19, Item 17						
Prime Onsite Hours																															
Prime Remote Site Hours																															
Prime Offsite Hours																															
Subcontractor: ABC Inc.																															
Subcontractor: DEF, Inc.																															
Team Member: G&H Engineers																															
TOTAL HOURS																															
Material \$																															
Travel \$																															
Miscellaneous/Other \$																															
Subcontractor \$: ABC Inc.																															
Subcontractor \$: DEF, Inc.																															
Subcontractor \$: GHI, Inc.																															
Team Member \$: G&H Engineers																															
Direct Labor \$																															
SUBTOTAL COST \$																															
TOTAL BURDENED COST \$ (including Overhead, G&A, and Fee)																															
36. Remarks:  (See P. 24, Item 36)						18. Total Direct Labor												(See P. 19, Item 18)													
						19. Overhead On-Site % Other Site A % Off-Site % Other Site B												(See P. 19, Item 19)													
						20. Overtime Premium												(See P. 20, Item 20)													
						21. Materials												(See P. 20, Item 21)													
						22. Travel												(See P. 20, Item 22)													
						23. Other												(See P. 20, Item 23)													
						24. Subcontracts												(See P. 21, Item 24)													
						25. SUBTOTAL												(See P. 21, Item 25)													
						26. G&A %												(See P. 21, Item 26)													
						27. Team Members												(See P. 21, Item 27)													
						28. Team Member Handling %												(See P. 21, Item 28)													
						29. TOTAL ESTIMATED COST												(See P. 22, Item 29)													
						30. Base Fee %												(See P. 22, Item 30)													
						31. Fixed Fee %												(See P. 22, Item 31)													
						32. Award Fee %												(See P. 22, Item 32)													
						33. ESTIMATED COST PLUS AWARD FEE												(See P. 22, Item 33)													
						34. TOTAL ESTIMATED COST												(See P. 22, Item 34)													
						35. TASK ESTIMATE GRAND TOTAL												(See P. 22, Item 35)													

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Contractor Task Report (Prime)																							
1. CONTRACT NUMBER: NAS5-30123		2. CONTRACTOR NAME: A1 Engineers, 1234 Fifth Street, Greenbelt, MD 20770								3. DATE: October 15, 1990													
4. ORIGINATOR: J. SMITH		5. PLACE OF PERFORMANCE: NASA/Goddard Space Flight Center, Greenbelt, MD 20771								6. GOVT. ATR NAME: J. Johnson		6a. ATR CODE: 554											
7. TASK DESCRIPTION: XTE IOSE		8. TASK NUMBER: 155				8a. TASK MOD: B				9. WBS NUMBER:		12. TASK END DATE: February 28, 1991											
		10. TASK START DATE: November 1, 1989				11. CONTINUATION (Y/N): Y																	
13. REPORTING CATEGORY		14. COST ESTIMATE										15. \$ Rate/ Hour		16. ESTIMATED COST				17. Cum Actual thru 9/30/90					
		OCT 90	NOV 90	DEC 90	JAN 91	FEB 91																	
Senior Systems Engineer		154	154	154	154	154																	
Senior Systems Analyst		154	154	154	80	80																	
Program Analyst		154	154	40	40																		
Mechanist		154	154																				
Prime Onsite Hours		154	154	154	154	154																	
Prime Remote Site Hours																			18,652				
Prime Offsite Hours		308	308	194	120	80																	
Subcontractor: ABC Inc.		185	185	185															5,941				
Subcontractor: DEF, Inc.		185	185	185	185	185													502				
Team Member: G&H Engineers		146	146																				
TOTAL HOURS		938	938	878	438	399													25,085				
Material \$																							
Travel \$		1,250			101,000																		
Miscellaneous/Other \$				500															2,109				
Subcontractor \$: ABC Inc.		15,700	15,700	15,700															28,911				
Subcontractor \$: DEF, Inc.		18,300	18,300	18,300	18,300	18,300													195,815				
Subcontractor \$: G&H, Inc.																							
Team Member \$: G&H Engineers		53,742	48,975																				
Direct Labor \$		10,834	10,834	8,354	6,834	5,784																	
SUBTOTAL COST \$		99,826	133,809	42,654	125,834	24,084																	
TOTAL BURDENED COST \$ (including Overhead, G&A, and Fee)		119,791	160,571	51,425	151,121	28,877																	
35. Remarks:												18. Total Direct Labor		19,520		14,462		8,439		5,898		667,950	
												19. Overhead		6,734		4,969		6,245		4,656		201,283	
												20. Overtime Premium											
												21. Materials											
												22. Travel											
												23. Other											
												24. Subcontract											
												25. SUBTOTAL		26,254		19,451		28,034		10,258		1,487,000	
												26. G&A		2,625		1,945		29,803		1,028		148,700	
												27. Team Member											
												28. Team Member Handling											
												29. TOTAL ESTIMATED COST		28,880		21,397		431,877		11,282		1,635,703	
												30. Base Fee											
												31. Fixed Fee											
												32. Award Fee		1,733		1,284		26,913		677		88,142	
												33. ESTIMATED COST PLUS AWARD FEE		30,613		22,680		457,790		11,959		1,733,845	
												34. TOTAL ESTIMATED COST											
												35. TASK ESTIMATE GRAND TOTAL											

FIGURE 2.3-2 Contractor Task Report (Example)

## **2.4     *Assumptions and Clarifications to the CTR***

The Assumptions and Clarifications to the CTR is supporting documentation that the contractor provides with the CTR estimate. It describes assumptions made by the contractor in developing the cost estimate, clarifies what the estimate includes and excludes, documents items the contractor assumes will be furnished by the government, gives schedule information, etc.

The Assumptions and Clarifications to the CTR may consist of narrative, graphical, and/or pictorial data. It contains information identifying the contract, contractor, task number, preparation date of the CTR, and CTR value.

The Assumptions and Clarifications to the CTR is illustrated in Figure 2.4-1.

**A1 Engineering, Inc.      NAS5-01234**  
**CTR Assumptions and Clarifications**

**Task 250:      TAS-1 Flight Harness Fabrication**  
**CTR Date:      3/8/95**  
**CTR Value:      \$29,302**

1.      The mock-up work will consist of assembling only. All payload mock-ups already exist and only require assembly.
2.      All connectors will be supplied by GSFC.
3.      The total number of cables to be fabricated will be 16. This includes two each of the cross bay cables.
4.      The total number of connectors to be wired for the 16 cables will be 46.

**FIGURE 2.4-1 Assumptions and Clarifications to the CTR (Example)**

## **2.5     *Monthly Technical Progress Report***

The Monthly Technical Progress Report is a narrative report for each active task which describes the work to be accomplished, a quantitative description of overall progress, an indication of any current problems which may impede performance and proposed corrective action taken, and a discussion of the work to be performed during the next monthly reporting period. The reporting period shall agree with the accounting period of the 533M Report.

The report consists of one or more pages and includes:

- Heading containing the company name, contract number, report period, task number, task description, and name and code of Goddard ATR
- Task Summary and Manpower
- Work Performed
- Work Planned
- Problems/Issues (Technical, Cost, Schedule), if applicable
- Unresolved Issues from Last Reporting Period, if applicable
- Significant Personnel Changes, if applicable
- Schedule and Percentage Complete (percentage complete refers to completed portion of the overall work to be accomplished, not portion of period of performance expended, unless a level-of-effort task)

The Monthly Technical Progress Report is illustrated in Figure 2.5-1.

**MONTHLY TECHNICAL PROGRESS REPORT**  
for the period  
July 1 - 31, 1995

Task No. 5  
Description: Ejection System Electronics (HESE) Development  
GSFC ATR: J. Smith, Code 566

---

***Task Summary and Manpower***

This task utilizes a part time senior electrical engineer and a half-time junior electrical engineer for design, development, and test of the Hitchhiker Ejection System Electronics (HESE) and its Electrical Ground Support Equipment (EGSE); packaging design/drafting personnel for mechanical and packaging design drawings; purchasing and shipping and receiving personnel for procuring parts and material; and manufacturing and quality assurance personnel for fabrication and assembly of the Flight HESE and its EGSE.

***Work Performed***

During this period, the EGSE design/packaging and drawings were completed and assembly of the HESE box has started with approximately 50% of the job completed.

***Work Planned***

- Begin generation of detail test procedures.
- Complete assembly of HESE box.
- Begin assembly of the Lower End Plate upon receipt of the connectors.
- Begin assembly of EGSE box and cables.

***Problems/Issues (Technical, Cost, Schedule)***

None.

***Significant Personnel Changes***

None.

***Schedule and Percentage Complete***

All work is progressing as planned per the schedule Rev. C. This task is approximately 62% complete.

## CATS Interface Specification

### 2.6 Other Direct Costs (ODC) Report

The Other Direct Costs (ODC) Report is a monthly report *detailing* the costs reported as ODC's on the NF533M Report such as Travel, Materials, Miscellaneous, etc. Detail shall be provided for each ODC Category on the NF533M. The ODC Report covers the same reporting period as the NF533M Report.

The Other Direct Costs Report format is shown in Figures 2.6-1. An example of a completed ODC Report is included as Figures 2.6-2. The following is a detailed description of the ODC Report (The Item # below refers to the circled number in Figure 2.6-1):

<u>Item #</u>	<u>Item</u>	<u>Description</u>
1.	Company Name	Name of prime contractor or subcontractor submitting the report.
2.	Contract Number	The prime contract number.
3.	Reporting Period	The beginning and ending date of the contractor's accounting month (same period as 533M report).
4.	Task Number	The task number that the ODC was charged to.
5.	Task Monitor	The name of the Government ATR and their GSFC Org. Code.
<b>Miscellaneous ODC</b>		
6.	Category	The ODC Category, See Table 3.6-1.
7.	Detail	Explanation of the cost, e.g. hours, dates, etc.
8.	Amount	The dollar amount of the cost, (include cents)
9.	Total	The total Miscellaneous ODC for the reporting period
<b>Travel ODC</b>		
10.	Name	The name of the traveler, last name, first initial
11.	Description	The travel dates and destination or "Local Travel"
12.	Miles	The miles traveled, if local travel
13.	Rate	The dollar/cents charge per mile, if local travel
14.	Amount	The cost of the travel
15.	Total	The total Travel ODC for the reporting period
<b>Materials ODC</b>		
16.	Description	The description of the item(s) including Purchase number, Invoice number, etc.
17.	Amount	The cost of the Material
18.	Total	The total Materials ODC for the reporting period

① Company Name ② Contract Number) ODC Detail

Period: ③

Task ④

Task Monitor: ⑤

Miscellaneous ODC

Category	Detail	Amount
⑥	⑦	⑧

Total Miscellaneous ODC:

⑨

Travel ODC

Name	Description	Miles	Rate	Amount
⑩	⑪	⑫	⑬	⑭

Total Travel ODC:

⑮

Materials ODC

Description	Amount
⑯	⑰

Total Materials ODC:

⑱

FIGURE 2.6-1 Other Direct Costs (ODC) Report (Blank Form)



## A1 Engineers (NAS5-12345) ODC Detail

Period: 8/1/97 to 8/31/97

Task 41

Task Monitor: Leader, J. 562

### Miscellaneous ODC

<u>Category</u>	<u>Detail</u>	<u>Amount</u>
Telephone Usage	11/21/97 - 12/20/97	5.10
CAE/CAD Charge	-1.0 hr	-3.16
Computer Charge	53.5 hrs	232.74
Copier Usage	214 copies	6.76
Federal Express	Inv.#0020446X	15.09

**Total Miscellaneous ODC:** **\$256.53**

### Travel ODC

<u>Name</u>	<u>Description</u>	<u>Miles</u>	<u>Rate</u>	<u>Amount</u>
Farve, B.	Local Travel	76	\$0.31	23.56
Smith, J.	PA: LSE Prod Mtg 12/2-5/97			571.64

**Total Travel ODC:** **\$595.20**

### Materials ODC

<u>Description</u>	<u>Amount</u>
PO097456 / INV# 8021373 Connectors	72.31
PO097479 / INV# 254236-00 Circuit Boards	929.24

**Total Materials ODC:** **1001.55**

FIGURE 2.6-2 Other Direct Costs (ODC) Report (Example)

## CATS Interface Specification

### 2.7 NASA Form 533Q

Form 533Q is a quarterly projection report which details and summarizes cost and labor hour estimates over the life of the contract. The rows of information to be provided (i.e., the reporting categories) are similar to those on the NASA Form 533M, but the columns differ.

Form 533Q is illustrated in Figures 2.7-1. The shaded areas of the form in the figure indicate the sections to be completed by the contractor.

An example of a completed Form 533Q containing a contract summary is included as Figures 2.7-2. An example of a completed Form 533Q containing information for a single task is included as Figures 2.7-3.

The following is a detailed description of NF533Q (Line # and Item # refers to Figure 2.3-1):

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
1.		<b>Description of Contract</b>	
1a.		Type of Contract	Cost-Plus-Award-Fee, Cost-Plus-Fixed-Fee, Cost-Plus-Incentive-Fee, etc.
1b.		Contract and Latest Amendment Number	Complete letter or contract symbol, number, and number of latest amendment. Subcontractors use the prime contract number.
1c.		Authorized Contractor Representative	The authorized contractor representative shall sign and date to reflect approval. (Date signifies date of approval.)
1d.		Task No. and Mod	Task number and Mod (e.g. Task 155A) if a single task or SUMMARY if overall contract summary. If a subcontractor report, task number must agree with prime contractor task number.
1e.		WBS No.	Work Breakdown Structure Number, if applicable, for a single task. Leave blank if overall contract summary.
1f.		Task Status	Status of the task: Active, Inactive or Closed <sup>1</sup> . Leave blank if overall contract summary.
1g.		% of Effort Complete	Contractor's assessment of the amount of the overall effort completed. Leave blank if overall contract summary.
1h.		ATR Name	Name of the government's Authorized Technical Representative (ATR), also referred to as the task monitor. Leave blank if overall contract summary.
1i.		ATR GSFC Code	GSFC Organization code of the ATR

<sup>1</sup>An Inactive task is one whose performance period has ended but its 533 remaining plan is *not* zero (columns 8a, 8b, and 8c).  
A Closed task is one whose performance period has ended and its 533 remaining plan *equals* zero (columns 8a, 8b, and 8c).

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
1j.		Scope of Work	Brief description of the contract effort or individual task effort if a single task. Identify the service, project, system or subsystem, and, where hardware is concerned, the quantity being procured or proposed for the contract.
1k.		Date of Report	Date of report preparation.
2.		Report for Quarter Beginning	The beginning date of the quarter being projected in columns 8a, 8b, and 8c, and the number of operating days in the quarter.
3.		Contract Value	The total definitized cost (A) and fee (B) of all work to be performed under the contract as of the report date, for the overall contract summary. Include dollar amounts through the latest amendment as noted in 1b above. For all incentive contracts, enter the negotiated target cost and target fee. For single tasks, enter the Contractor Task Report (CTR) value.
4.		Funding Limitation	The total funding obligated and the latest corresponding contract amendment number, as of the report date, for the overall contract summary and individual tasks.
5.		Billing:	
5A.		Invoice Amounts Billed	The total amount of invoices billed (dollars) by the contractor against the contract and the latest invoice number as of the report date.
5B.		Total Payments Received	The total amount of payments received (dollars) by the contractor for the contract as of the report date.
6.		Reporting Category	Information required for the various categories under this heading depends on who is submitting the report, the prime contractor (P) or a subcontractor (S). The number of reporting categories is flexible (see Table 3.2-1).
6.	1.	Direct Labor Hours	Number of labor hours performed by the contractor submitting the report.
6.	2.	Straight-Time Onsite <sup>1</sup>	Direct straight-time labor (hours) performed onsite.
6.	3.	Straight-Time Other Site <sup>1</sup>	Direct straight-time labor (hours) performed at an "other" site. If other sites are used, provide each site on a separate line.
6.	4.	Straight-Time Offsite <sup>1</sup>	Direct straight-time labor (hours) performed offsite.
6.	5.	Overtime Onsite <sup>1</sup>	Direct overtime labor (hours) performed onsite.
6.	6.	Overtime Other Site <sup>1</sup>	Direct overtime labor (hours) performed at an "other" site. If other sites are used, provide each site on a separate line.
6.	7.	Overtime Offsite <sup>1</sup>	Direct overtime labor (hours) performed offsite.
6.	8.	Total Contractor Hours	Total contractor labor hours (sum of the six Direct Labor Hour subheadings: Figure 2.3-1, Lines 2-7).

<sup>1</sup>See glossary, Section 1.1

# CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
6.	9.	Subcontractor Hours	P - Total hours for all the prime's subcontractors (excluding team members). S - Total labor hours for all the subcontractor's subcontractors.
6.	10.	Team Member Hours	P - Total hours for all the prime's team members. S - 0.
6.	11.	Total Hours	Total labor hours (sum of Total Contractor Hours, Subcontractor Hours, and Team Member Hours (Figure 2.3-1, Lines 8-10).
6.	12.	Labor Dollars	
6.	13.	Direct Labor \$ Onsite <sup>1</sup>	Cost of direct labor performed onsite.
6.	14.	Direct Labor \$ Other Site <sup>1</sup>	Cost of direct labor performed at an "other" site.
6.	15.	Direct Labor \$ Offsite <sup>1</sup>	Cost of direct labor performed offsite.
6.	16.	Total Labor \$	Total labor dollars (sum of Onsite and Offsite Labor \$: Figure 2.3-1, Lines 13-15).
6.	17.	Onsite <sup>1</sup> Overhead	Onsite Overhead costs.
6.	18.	Other Site <sup>1</sup> Overhead	Other Site Overhead costs.
6.	19.	Offsite <sup>1</sup> Overhead	Offsite Overhead costs.
6.	19a.	Total Overhead	Total overhead costs (sum of lines 17-19, Figure 2.7-1)
6.	20.	Other Direct Charges:	Prime's charges only. Subcontract/Team ODC's are reported on Lines 27 and 30, respectively.
6.	21.	Material	Cost of material.
6.	22.	Travel	Cost of travel.
6.	23.	Overtime Premium	Overtime dollars generally carry no overhead.
6.	24.	Miscellaneous	Miscellaneous costs.
6.	25.	Other (description)	Costs associated with an additional specified ODC.
6.	26.	Total ODC	Total ODC for the contractor (Figure 2.3-1, Lines 21-25).
6.	27a.	Subcontractor \$	P - Total dollars for all prime's subcontractors (excluding team members). S - Total dollars for all subcontractor's subcontractors
6.	27b.	Team Member \$	P - Team members total costs. S - 0. Delete this entry if team member costs are not burdened by full G&A.

<sup>1</sup>See glossary, Section 1.1

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
6.	28.	Subtotal	Subtotal of Costs (sum of Total Labor \$, Overhead, and Total ODC: Figure 2.3-1, Lines 16, 19a, 26, 27a, and 27b).
6.	29.	G&A	Contractor's General and Administrative costs.
6.	30.	Team Member \$	P - Team members' total costs. S - 0. Delete this entry if team member costs are burdened by full G&A.
6.	31.	Team Member Handling Charges	P - Prime contractor's handling charges for the team member(s). (This could be the Prime's G&A rate if "team members cost" is included in Prime's Base of Distribution for G&A.) S - 0. Delete this entry if team member costs are burdened by full G&A.
6.	32.	Total Costs	Total costs (sum of Subtotal, G&A, Team Member \$, and Team Member Handling Charges: Figure 2.3-1, Lines 28-30).
6.	33.	Base Fee	Base fee dollars.
6.	34.	Fixed Fee	Fixed fee dollars.
6.	35.	Award Fee	Award fee dollars.
6.	36.	Total Cost + Fees	Total cost and fees (sum of Total Costs, Base Fee, Fixed Fee, and Award Fee: Figure 2.3-1, Lines 31-35).
7.		<b>Cost Incurred and Hours Worked</b>	To accommodate the requirement that NASA receive this report prior to the quarter being forecast, column 7 shall include cumulative actual cost as reported on the monthly cost reports through the second month of the prior quarter (7a), plus an estimate for the last month of this quarter (7b).
7a.		Cumulative Through Prior Month	The cumulative actual cost incurred and hours worked through the first two months of the quarter preceding the quarter projected in columns 8a, 8b, and 8c.
7b.		Current Month Estimate	Estimate, from the current CTR, of cost and hours for the month in which the report is due.
7c.		Cumulative Estimate to Date	The sum of columns 7a and 7b.
8.		<b>Estimated Cost and Hours to Complete</b>	The current estimates, from the current CTR, for performing currently authorized work included in the most recent Task Assignment amendment. The estimates are used for planning purposes only and will not be binding on either the contractor or NASA. The sum of columns 8a through 8i is entered in column 8j. If the totals reported in column 8i, "Balance of Contract", exceed more than one fiscal year, each year should be identified and reported separately under "Contractor's Remarks".
8a.		Month + 1	Estimated cost and hour data, from the current CTR, for the first month of the quarter being projected.

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
8b.		Month + 2	Estimated cost and hour data, from the current CTR, for the second month of the quarter being projected.
8c.		Month + 3	Estimated cost and hour data, from the current CTR, for the third month of the quarter being projected.
8d.		Quarter + 1	Estimated cost and hour data, from the current CTR, for the first quarter following the quarter being projected in columns 8a, 8b, and 8c.
8e.		Quarter + 2	Estimated cost and hour data, from the current CTR, for the second quarter following the quarter being projected in columns 8a, 8b, and 8c.
8f.		Quarter + 3	Estimated cost and hour data, from the current CTR, for the third quarter following the quarter being projected in columns 8a, 8b, and 8c.
8g.		Balance of Fiscal Year	Estimated cost and hour data, from the current CTR, for the remainder of the fiscal year containing the quarter detailed in column 8f.
8h.		Next Fiscal Year	Estimated cost and hour data, from the current CTR, for the fiscal year following the fiscal year discussed in column 8g.
8i.		Balance of Contract	Estimated cost and hour data, from the current CTR, for the balance of the contract not including columns 8a through 8h.
8j.		Total To Complete	Sum of columns 8a through 8i.
9.		<b>Estimated Final Cost and Hours</b>	
9a.		Contractor Estimate	The total estimated cost and hours for completion of the contracted effort (the sum of columns 7c, and 8j).
9b.		Contract Value	The distribution of the current CTR for a single task and latest contract amendment for the contract summary. The total of this column shall agree with Item 3 above. Significant differences between columns 9a and 9b shall be explained under Item 12, "Remarks". When there are no changes from prior reports submitted, the data may be omitted if the contractor and the NASA contracting officer jointly agree.
10.		<b>Estimated Completion Date</b>	The estimated completion date for the task. Leave blank for summary reports.
11.		<b>Unfilled Orders Outstanding</b>	<p>The total of unfilled orders outstanding as of the report date. "Unfilled Orders Outstanding" is defined as the difference between the cumulative costs incurred to date and the amounts obligated to any sellers, including contracts, open purchase orders, and any other firm orders issued by the contractor or its subcontractors. Unfilled orders outstanding for the prime contractor, team members, and subcontractors may consist of the following examples:</p> <ul style="list-style-type: none"> <li>a. Open purchase orders, including negotiated changes, against which materials have not been received or services have not yet been rendered.</li> <li>b. The difference between a subcontractor's actual costs reported by the prime contractor and the fund limitations for the subcontractor.</li> </ul>

## CATS Interface Specification

<u>Item #</u>	<u>Line #</u>	<u>Item</u>	<u>Description</u>
12.		Remarks	<p>The narrative report submitted with the quarterly cost projection report should normally be limited to those items materially affecting projected cost or performance which have not been addressed in the preceding monthly reports. These could include:</p> <ul style="list-style-type: none"><li>a. Significant items materially affecting cost; e.g., technical and schedule problems, changes in plans, incurred over/under runs, etc.</li><li>b. Breakdown of changes authorized but not finalized.</li><li>c. New change orders.</li><li>d. etc.</li></ul>

# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Form 533Q Financial Report

Prime/Subcontractor/Team Member

TO: NASA Goddard Space Flight Center Greenbelt Road Greenbelt, MD 20771				FROM: Company Name Address State, City, Zip				2. Report For Quarter Beginning (See P. 35, Item 2)											
1. DESCRIPTION CONTRACT				a. TYPE OF CONTRACT (See P. 34, Item 1a)		b. CONTRACT AND LATEST AMENDED NO. (See P. 34, Item 1b)		c. AUTH. CONTR. REF. (See P. 34, Item 1c)		3. CONTRACT VALUE A. COST \$ (See P. 35, Item 3) B. FEE \$ (See P. 35, Item 3)									
				d. TASK NO. AND MOD. (See P. 34, Item 1d)		e. WBS NO. (See P. 34, Item 1e)		f. TASK STATUS (See P. 34, Item 1f)		g. % OF EFFORT COMPLETE (See P. 34, Item 1g)		4. FUND LIMITATION A. COST \$ (See P. 35, Item 4) B. FEE \$ (See P. 35, Item 4)							
				h. SCOPE OF WORK (See P. 35, Item 1j)		i. DATE OF REPORT (See P. 35, Item 1k)		5. BILLING A. INVOICE AMT. BILLED \$ (See P. 35, Item 5) B. TOTAL PYTS RECEIVED \$ (See P. 35, Item 5)											
				6. REPORTING CATEGORY (See P. 35, Item 6)		7. COST INCURRED / HOURS WORKED		8. ESTIMATED COST / HOURS TO COMPLETE		9. EST. FINAL COST / HOURS		10. EST. COMPLETION DATE (See P. 35, Item 11)							
				CUM. THRU PRIOR MONTH (Date)	CURRENT MONTH ESTIMATE (Date-Date)	CUM. ESTIMATE TO DATE (Date)	MONTH 1 (Date-Date)	MONTH 2 (Date-Date)	MONTH 3 (Date-Date)	QUARTER 1 (Date-Date)	QUARTER 2 (Date-Date)	QUARTER 3 (Date-Date)	BALANCE OF FY (Date-Date)	NEXT FY (Date-Date)	BALANCE OF CONTRACT (Date-Date)	TOTAL TO COMPLETE	CONTRACTOR ESTIMATE	CONTRACT VALUE	11. UNFILLED ORDERS OUTSTANDING
				a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
1 Direct Labor Hours																			
2 Straight-Time Onsite																			
3 Straight-Time Other Site																			
4 Straight-Time Offsite																			
5 Overtime Onsite																			
6 Overtime Other Site																			
7 Overtime Offsite																			
8 Total Contractor Hours																			
9 Subcontractor Hours																			
10 Team Member Hours																			
11 TOTAL HOURS																			
12 Labor Dollars																			
13 Direct Labor \$ Onsite																			
14 Direct Labor \$ Other Site																			
15 Direct Labor \$ Offsite																			
16 TOTAL LABOR \$				See P. 37, Item 7a	See P. 37, Item 7b	See P. 37, Item 7c	See P. 37, Item 8a	See P. 37, Item 8b	See P. 37, Item 8c	See P. 37, Item 8d	See P. 37, Item 8e	See P. 37, Item 8f	See P. 37, Item 8g	See P. 37, Item 8h	See P. 37, Item 8i	See P. 37, Item 8j	See P. 37, Item 8k	See P. 37, Item 8l	See P. 37, Item 8m
17 Onsite Overhead																			
18 Other Site Overhead																			
19 Offsite Overhead																			
19a TOTAL OVERHEAD																			
20 Other Direct Charges																			
21 Material																			
22 Travel																			
23 Overtime Premium																			
24 Miscellaneous																			
25 Other																			
26 TOTAL ODC																			
27a Subcontractor \$																			
27b Team Member \$																			
28 Subtotal																			
29 G&A																			
30 Team Member \$																			
31 Team Member Handling Charges																			
32 Total Costs																			
33 Base Fee																			
34 Fixed Fee																			
35 Award Fee																			
36 TOTAL COST + FEES																			
11. Remarks (See P. 39, Item 12)																			

FIGURE 2.7-1 NASA Form 533Q (Blank Form)





# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

## Form 533Q Financial Report

(Prime)

CATS Interface Specification

TO: NASA Goddard Space Flight Center Greenbelt Road Greenbelt, MD 20771				FROM: AJ Engineers, Inc. 1334 Fifth Street Greenbelt, MD 20770				2. Report For Quarter Beginning July 1, 1992									
1. DESCRIPTION CONTRACT		a. TYPE OF CONTRACT CPAF		b. CONTRACT AND LATEST AMENDED NO. NASS-50123 Mod 21		c. AUTH CONT REP J. Doe		3. CONTRACT VALUE									
		d. TASK NO. AND MOD 155	e. WBS NO. 100.3	f. TASK STATUS ACTIVE	g. % OF EFFORT COMPLETE 35%	h. ATR NAME J. Smith	i. ATR CODE 560	A. COST \$ 21,439,692		B. FEE \$ 51,941,738							
		j. SCOPE OF WORK XTE IGSE		k. DATE OF REPORT September 2, 1992		4. FUND LIMITATION		A. COST \$ 74,500,000		B. FEE \$							
4. REPORTING CATEGORY		7. COST INCURRED / HOURS WORKED			8. ESTIMATED COST / HOURS TO COMPLETE								9. EST. FINAL COST / HOURS		10. EST. COMPLETION DATE		
		CLM THRU MONTH 5/1/92	CURRENT MONTH 6/1/92-6/30/92	CLM ESTIMATE TO DATE 6/30/92	MONTH +1 7/1/92-7/31/92	MONTH +2 8/1/92-8/31/92	MONTH +3 9/1/92-9/30/92	QUARTER +1 7/1/92-9/30/92	QUARTER +2 10/1/92-12/31/92	QUARTER +3 1/1/93-3/31/93	BALANCE OF FY 10/1/92-9/30/92	NEXT FY 10/1/93-9/30/93	BALANCE OF CONTRACT	TOTAL TO COMPLETE	CONTRACTOR ESTIMATE	CONTRACT VALUE	11. UNFILLED ORDERS OUTSTANDING
Direct Labor Hours		46,073	1,011	47,084	1,112	1,177	984	1,226	141	0	0	0	0	4,580	51,663	53,427	
Straight-Time Onsite		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Straight-Time Remote Site		70,444	1,221	71,665	1,230	1,122	918	1,717	259	0	0	0	0	3,245	76,909	93,408	
Overtime Onsite		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Overtime Remote Site		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Overtime Offsite		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Contractor Hours		116,517	2,232	118,749	2,342	2,299	1,902	2,943	400	0	0	0	0	9,825	128,572	146,835	
Subcontractor Hours		23,595	613	24,277	779	760	640	742	1,234	0	0	0	0	4,155	28,431	48,158	
Team Member Hours		25,161	3,527	28,774	699	582	504	3,218	56	0	0	0	0	7,058	32,832	48,423	
TOTAL HOURS		165,273	6,372	168,800	3,820	3,581	3,046	6,903	1,690	0	0	0	0	21,038	169,833	238,416	
Labor Dollars																	
Direct Labor \$ Onsite		907,004	22,378	929,382	26,037	26,117	22,771	26,803	3,312	0	0	0	0	105,040	1,034,422	108,408	
Direct Labor \$ Remote Site		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Direct Labor \$ Offsite		1,370,862	24,755	1,395,617	30,620	28,053	22,489	39,681	6,645	0	0	0	0	127,505	1,523,122	1,763	
TOTAL LABOR \$		2,277,866	282,798	2,324,999	56,657	54,170	45,260	66,484	9,957	0	0	0	0	232,545	2,557,544	110,172	
Onsite Overhead		187,162	7,029	194,191	8,451	8,316	7,349	8,749	821	0	0	0	0	31,784	227,443	25,106	
Remote Site Overhead		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Offsite Overhead		1,020,057	17,596	1,041,653	18,379	19,307	18,119	17,951	3,480	0	0	0	0	77,236	1,118,889	131,321	
TOTAL OVERHEAD		1,207,219	24,625	1,235,844	26,830	27,633	25,468	26,700	4,401	0	0	0	0	108,020	1,346,332	156,429	
Other Direct Charges																	
Material		769,019	21,344	790,363	16,118	17,950	13,351	20,537	35,356	0	0	0	0	103,312	893,675	857,513	29,250
Travel		120,465	1,395	121,860	4,422	1,428	1,117	2,389	385	0	0	0	0	9,941	131,801	135,450	
Overtime Premium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous		161,668	4,924	166,600	3,139	2,381	2,793	4,501	1,126	0	0	0	0	13,941	180,540	191,772	
Other		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL ODC		1,051,152	27,663	1,078,815	23,679	21,759	17,261	27,427	37,067	0	0	0	0	127,194	1,206,016	1,184,735	29,250
Subcontractor \$		1,446,066	36,489	1,482,554	35,169	40,997	33,357	62,532	45,403	0	0	0	0	217,477	1,500,032	1,871,752	29,250
Subtotal		5,982,303	371,575	6,353,878	425,619	415,399	347,641	513,581	146,722	0	0	0	0	686,238	6,810,124	7,323,288	
G&A		457,626	10,188	467,814	12,715	9,473	8,542	13,910	6,221	0	0	0	0	763,473	7,929,013	8,094,693	
Team Member \$		1,141,595	24,747	1,166,342	28,191	25,090	23,880	34,749	2,963	0	0	0	0	103,312	893,675	982,354	
Team Member Handling Charges		12,927	980	15,091	972	829	772	1,276	88	0	0	0	0	876,726	8,954,489	9,039,358	
Total Costs		7,594,451	407,490	7,995,295	467,497	450,791	380,835	545,516	156,014	0	0	0	0	2,429,749	24,587,301	21,439,693	29,250
Base Fee		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fixed Fee		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Award Fee		48,378	116,947	109,021	42,483	41,091	38,646	66,941	100,903	0	0	0	0	4,069,946	41,470,802	41,915,380	
TOTAL COST + FEES		7,642,829	524,437	7,995,316	509,980	491,882	419,481	612,457	256,916	0	0	0	0	6,499,695	66,058,103	63,355,073	29,250

11. Remarks:

92 onsite hours were inadvertently charged as offsite; will be corrected on next 533 report.

FIGURE 2.7-3 NASA Form 533Q (Contract Single Task Example)

## 3.0 ELECTRONIC INTERFACE SPECIFICATION

The specified contractors (see Section 1.0) are required to electronically submit the reports described in Section 2.0 unless excepted by the Official NASA/GSFC Contract. Submission shall be made to the Electrical System Center's Support Services Contract Manager.

The general file specifications described in Section 3.1 shall be followed except when over-ridden by specific requirements in a subsequent section of this document. Files may be submitted on diskette or as **attachments** to electronic mail.

The file formats for each report submission are outlined in detail in Sections 3.2 through 3.6, respectively.

### 3.1 General File Specifications

This section describes the general requirements for the file format of all electronic submissions to the CATS system. The following requirements shall be followed:

**Media Specification:** IBM PC compatible or electronic mail attachment  
3.5" diskette  
High density

**Diskette Label:** A label shall be affixed to the diskette containing the following information:

- contract number (e.g., NAS5-xxxxx)
- company name
- report type(s) (e.g., 533M, CTR, etc.)
- period end date
- diskette number (e.g., 1 of 2)

**File Specification:** All files shall be ASCII flat files, one file per contract per month or reporting period.

**File Naming:** Files shall be named using a "filename dot extension" format. Long filenames are acceptable with the correct extension. The filename shall distinctly describe the contents of the file. The extension shall be:

- .53M for the NF533M
- .WF for the Workforce Reports
- .CTR for the CTR
- .DOC for assumptions and status reports
- .ODC for the other direct costs reports
- .53Q for the NF533Q

**File Structure:** A File is a sequence of ASCII text records. Records may contain multiple entries per record, with "white space" (space(s) or tab(s)) separating each entry. The last entry of every line shall be followed by a <cr><lf>. There shall not be any **extra blank** records between the data records except as specified by blank or spare records. In the sections that follow, the **Record #** column specifies the order and the number of records in the file section.

**Data Field Specification:**

CHAR data elements:

- shall not contain any leading or trailing blanks

NUMERIC data elements:

- are not limited as to the size of the number
- shall not contain any embedded commas, ( )'s or \$ symbols

## CATS Interface Specification

- may contain the decimal point character "."
- negative numbers shall be preceded by minus (-) sign and shall not be in parenthesis

### DATE Data Elements:

- Shall support the Century transition to the year 2000
- Four digit years are acceptable
- 2 digit years shall represent the year/century as follows:
  - 00 - 49 represents year 2000 - 2049
  - 50 - 99 represents year 1950 - 1999

Blank records are allowed (for example in the Summary portions).  
Provide a 0 value for all Spare records.

### Task Number Format:

Task numbers shall be formatted as follows: tttt-sss

Where: tttt = the task number, supply leading zeros (e.g. 0001, 0117, etc.)

sss = the subtask number, supply leading zeros and include the dash (-)

(e.g. 0002-002, 0184-011, etc.)

If there is no subtask, OMIT the -sss.

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### 3.2 NASA Form 533M File Format

**File Specification:** NASA Form 533M shall be submitted as an ASCII flat file, one file per contract, per month. Each file shall contain the following items:

1.      Contract Header:      This section contains information identifying the contract, describing the scope of the contract, and identifying the reporting period.
2.      Contract Summary:      This section contains the information from Items 7, 8, 9, and 10 of the NF533M for the contract summary (see Section 2.1). This is the cost and hours data for the contract overall.
3.      Task Detail:              This section contains the information from Items 7, 8, 9, and 10 of the NF533M for each task. This section repeats for each task in the report as necessary. Include Closed<sup>1</sup> Tasks that do not have charges for the current month.
4.      End of File:              This is the end of the file for this reporting month.

**NOTE:** Each file shall contain the summary information and task information for a complete contract. In other words, a file will not correspond to a single NF533M hard copy form, but rather will contain all the information provided by the multiple hard copy reports for each contract.

**Reporting Categories shall be provided in the order specified in Section 2.1.**

Figure 3.2-1 depicts the Top Level File Specification for Electronic Submission of the NF533M Report.

<sup>1</sup>A Closed task is one whose performance period has ended and its NF533M remaining plan equals zero (columns 8a, 8b, and 8c).

<b>CONTRACT HEADER</b>
Contract Number Prime, Sub, Team Contract Type Company Name . . . Spare Fields
<b>CONTRACT SUMMARY</b>
Data Elements for: Items 7, 8, 9 and 10 of the NF533M
<b>TASK 1 DETAIL</b>
TASK HEADER Data Elements for: Items 7, 8, 9 and 10 of the NF533M
<b>TASK 2 DETAIL</b>
TASK HEADER Data Elements for: Items 7, 8, 9 and 10 of the NF533M
. . .
<b>TASK n DETAIL</b>
TASK HEADER Data Elements for: Items 7, 8, 9 and 10 of the NF533M

FIGURE 3.2-1 Top Level Format of the NF533M File

## CATS Interface Specification

### 3.2.1 NF533M Contract Header

This section of the NF533M file describes the contract and general information for the NF533M report including the financial information.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Contract Number & Mod	1	CHAR 20	NAS5-54321	
PRIME, SUB, or TEAM	2	CHAR 6	PRIME	Denotes who is submitting the report. Field shall contain Prime, Sub, or Team as appropriate.
Type of Contract	3	CHAR 8	CPFF	
Company Name	4	CHAR 40	A1 Engineers Inc.	Name of prime contractor, subcontractor, or team member.
Company Street Address	5	CHAR 40	1234 Fifth Street	Street Address.
Company City Address	6	CHAR 40	Greenbelt, MD 20770	City, State, Zip.
Task Number	7	CHAR 16	SUMMARY	Always contains SUMMARY.
WBS Number	8	CHAR 16	100.3	WBS number, if applicable.
Task Status	9	CHAR 1		Blank for SUMMARY.
Percent Complete	10	NUMERIC		Blank for SUMMARY.
Scope of Work	11	CHAR 40	Engrg Spt	Short description of work.
Authorized Contract Rep	12	CHAR 32	John Doe	Contractor's representative.
ATR Name	13	CHAR 32		Blank for SUMMARY.
ATR's GSFC Org Code	14	CHAR 32		Blank for SUMMARY.
Date of Report	15	CHAR 8	10/16/92	mm/dd/yy.
Period Ending	16	CHAR 8	09/30/92	mm/dd/yy.
Number of Operational Days	17	NUMERIC	22	
Contract Value, Cost	18	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Contract Value, Fee	19	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Cost	20	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Fee	21	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Invoice Amount Billed	22	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Total Payments Received	23	NUMERIC	dddd.cc	Do not include \$ or , symbols!
From Date for Column 7a	24	CHAR 8	09/01/92	mm/dd/yy.
To Date for Column 7a	25	CHAR 8	09/30/92	mm/dd/yy.
From Date for Column 7b	26	CHAR 8	09/01/92	mm/dd/yy.
To Date for Column 7b	27	CHAR 8	09/30/92	mm/dd/yy.
Thru Date for Column 7c	28	CHAR 8	09/30/92	mm/dd/yy.
Thru Date for Column 7d	29	CHAR 8	09/30/92	mm/dd/yy.
From Date for Column 8a	30	CHAR 8	10/01/92	mm/dd/yy.

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<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
To Date for Column 8a	31	CHAR 8	10/31/92	mm/dd/yy.
From Date for Column 8b	32	CHAR 8	11/01/92	mm/dd/yy.
To Date for Column 8b	33	CHAR 8	11/30/92	mm/dd/yy.
Balance Date for Column 8c	34	CHAR 8	12/01/92	mm/dd/yy.
Remarks	35	CHAR 100		
Number of Tasks	36	NUMERIC	19	Number of Tasks included in this file not including SUMMARY data.
Prime's Period Ending Date	37	CHAR 8	9/30/92	mm/dd/yy (Previous Spare #1)
SPARE	24 records		0	These items are not used at the present time. The file shall contain 0 for these fields.

### 3.2.2 NF533M Contract Summary

This section of the NF533M file contains the information for the data portion of the report that represents the SUMMARY data for the contract for the reporting month.

The next x records, where x is the number of lines under columns 7 through 10, contain one row of data per record as it appears on the NF533M. Each record shall consist of 11 fields. The first field shall contain the Reporting Category Code and the remaining 10 fields shall contain the data for each of the columns in the NF533M for items 7-10. If all ten (10) values for the category are zero, the record may be omitted from the file; however, the END record is required. See Table 3.2-1 for pre-defined Reporting Category Identifiers. Additional categories shall be defined by the Technical Officer for each contract. The records shall be formatted as follows:

REP\_CAT 7a 7b 7c 7d 8a 8b 8c 9a 9b 10<cr><lf>

Followed by an END of section record: END<cr><lf>

Reporting Categories shall be provided in the order specified in Section 2.1.

EXAMPLE:

STON 160 160 940 975 160 160 1000 1100 1100 0<cr><lf>  
STOF 80 80 160 160 80 80 500 500 500 0<cr><lf>

Straight Time Onsite Hours  
Straight Time Offsite Hours

TOTCF 25000 25000 300000 300000 25000 25000 600000 600000 60000 0<cr><lf> Total Cost and Fee  
END<cr><lf> Last Record for Summary



### 3.2.3 NF533M Task Detail

This section of the NF533M file contains the information for each individual task of the contract. The format is repeated for each task in the report.

#### *First Task of the Report*

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
<b><u>TASK HEADER</u></b>				
Task Number	1 record	CHAR 16	0155	Must match CTR Task No.
Task Modification	1 record	CHAR 1	A	Alphabetic amendment letter (e.g. A, B, C, etc.). Leave blank if no amendment has been issued.
WBS Number	1 record	CHAR 16	100.3	WBS number, if applicable.
Task Status	1 record	CHAR 1	A	A=Active task, C=Closed task, or I=Inactive task <sup>1</sup> .
Percent Complete	1 record	NUMERIC	25	Do not include the % character.
Scope of Work	1 record	CHAR 40	XTE IGSE	Short description of work.
Authorized Contract Rep	1 record	CHAR 32	John Doe	Contractor's representative.
ATR Name	1 record	CHAR 32	J. Smith	Assistant Tech. Rep.
ATR's GSFC Org code	1 record	CHAR 32	563	ATR's organization code.
Date of Report	1 record	CHAR 8	11/10/93	mm/dd/yy.
Period Ending	1 record	CHAR 8	10/31/93	mm/dd/yy.
Number of Operational Days	1 record	NUMERIC	21	
Contract Value, Cost	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Contract Value, Fee	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Cost	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Fee	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Invoice Amount Billed	1 record	NUMERIC		Blank for single tasks.
Total Payments Received	1 record	NUMERIC		Blank for single tasks.
From Date for Column 7a	1 record	CHAR 8	10/01/93	mm/dd/yy.
To Date for Column 7a	1 record	CHAR 8	10/31/93	mm/dd/yy.
From Date for Column 7b	1 record	CHAR 8	10/01/93	mm/dd/yy.
To Date for Column 7b	1 record	CHAR 8	10/31/93	mm/dd/yy.
Thru Date for Column 7c	1 record	CHAR 8	10/31/93	mm/dd/yy.
Thru Date for Column 7d	1 record	CHAR 8	10/31/93	mm/dd/yy.
From Date for Column 8a	1 record	CHAR 8	11/01/93	mm/dd/yy.

<sup>1</sup>An Inactive task is one whose performance period has ended but its NF533M remaining plan is *not zero* (columns 8a, 8b, and 8c).  
A Closed task is one whose performance period has ended and its NF533M remaining plan *equals zero* (columns 8a, 8b, and 8c).

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<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
To Date for Column 8a	1 record	CHAR 8	11/30/93	mm/dd/yy.
From Date for Column 8b	1 record	CHAR 8	12/01/93	mm/dd/yy.
To Date for Column 8b	1 record	CHAR 8	12/31/93	mm/dd/yy.
Balance Date for Column 8c	1 record	CHAR 8	01/01/94	mm/dd/yy.
Remarks	1 record	CHAR 100		
Date of Referenced CTR	1 record	CHAR 8	04/11/94	mm/dd/yy.
Task Modification of Referenced CTR	1 record	CHAR 1	A	Alphabetic amendment letter (e.g. A, B, C, etc.). Leave blank if no amendment has been issued.
Prime's Period Ending Date	1 record	CHAR 8	9/30/92	mm/dd/yy (Previous Spare #1)
SPARE	9 records	0		These items are not used at the present time. The file shall contain 0 for these fields.

### ***Data Elements for Task #1***

The next x records, where x is the number of lines under columns 7 through 10, contain one row of data per record as it appears on the NF533M. Each record shall consist of 11 fields. The first field shall contain the Reporting Category Code and the remaining 10 fields shall contain the data for each of the columns in the NF533M for items 7-10. If all ten (10) values for the category are zero, the record may be omitted from the file; however, the END record is required. See Table 3.2-1 for pre-defined Reporting Category Identifiers. Additional categories shall be defined by the Technical Officer for each contract. The records shall be formatted as follows:

REP\_ID 7a 7b 7c 7d 8a 8b 8c 9a 9b 10<cr><lf>

Followed by an END of section record: END<cr><lf>

**Reporting Categories shall be provided in the order specified in Section 2.1.**

EXAMPLE:

STON 160 160 940 975 160 160 1000 1100 1100 0<cr><lf>

Straight Time Onsite Hours

END<cr><lf>

Last Record for Task #1

**Repeat Section 3.2.3, *First Task of the Report*, for each task under the contract.**

### **3.2.4 NF533M End of File**

The END<cr><lf> record for the last task is the end of the file.

TABLE 3.2-1 Reporting Categories

This table lists the pre-defined Reporting Category Identifiers. This list applies to the NF533M, and CTR Files. Each Identifier shall be unique and limited to six (6) characters. These are the standard categories. Additional categories shall be defined by the Technical Officer for each contract.

<u>Identifier</u>	<u>Units</u>	<u>Description</u>
AEDDIV	Dollars	AED Divisional Overhead
ADJ	Dollars	Adjustment
AF	Dollars	Award Fee
AFL	Dollars	Award Fee: Labor
AFMAT	Dollars	Award Fee: Materials
BF	Dollars	Base Fee
CTFALL	Dollars	CTF Allocation
LDCON	Dollars	Contractor Labor \$
LDOF	Dollars	Direct Labor Offsite
LDON	Dollars	Direct Labor Onsite
LDRS	Dollars	Direct Labor Remote Site
LDENG	Dollars	Direct Labor: Engineering
LDMFG	Dollars	Direct Labor: Manufacturing
LDQA	Dollars	Direct Labor: Quality Assurance
FCCM	Dollars	Facilities Cost of Money (FCCM)
FP	Dollars	Firm Fixed Price Items
FF	Dollars	Fixed Fee
G&A	Dollars	G & A
G&AMF	Dollars	G&A Manufacturing
G&AODC	Dollars	G&A on ODC
LLDOF	Dollars	Loaded Labor Offsite
LLDON	Dollars	Loaded Labor Onsite
MATRL	Dollars	MATERIAL \$
MFMB	Dollars	MFG Material Burdens
VAX	Dollars	ODC: CAD/VAX
LTRAV	Dollars	ODC: Local Travel
MAIN	Dollars	ODC: Maintenance
MAT	Dollars	ODC: Materials
VAXMF	Dollars	ODC: Mfg CAD/VAX
MATMF	Dollars	ODC: Mfg Materials
MISCMF	Dollars	ODC: Mfg Other
TRAVMF	Dollars	ODC: Mfg Travel
NLTRAV	Dollars	ODC: Non-Local Travel
MISC	Dollars	ODC: Other
TRAV	Dollars	ODC: Travel
ODC	Dollars	OTHER \$
OHOF	Dollars	Overhead Offsite
OHON	Dollars	Overhead Onsite
OHRS	Dollars	Overhead Remote Site
OHCON	Dollars	Overhead: Contractors
OHENG	Dollars	Overhead: Engineering
OHMFG	Dollars	Overhead: Manufacturing

**TABLE 3.2-1**  
(continued)

OHMAT	Dollars	Overhead: Material
OHQA	Dollars	Overhead: Quality Assurance
OVP	Dollars	Overtime Premium
SUBS	Dollars	SUBS \$
SUBT	Dollars	SUBTOTAL
SD	Dollars	Subcontractor \$
TOBUR	Dollars	TOTAL BURDENED COST
TOTCON	Dollars	TOTAL CONTRACT
TOTC	Dollars	TOTAL COST
TOTCF	Dollars	TOTAL COST & FEE
TOTG&A	Dollars	TOTAL G&A
TOTLD	Dollars	TOTAL LABOR
TOTLDS	Dollars	TOTAL LABOR (w/Sub)
TOTLLD	Dollars	TOTAL LOADED LABOR
TLODC	Dollars	TOTAL LOADED ODC
TODCMF	Dollars	TOTAL MFG ODC
TOTODC	Dollars	TOTAL ODC
TOTOH	Dollars	TOTAL OVERHEAD
TOTPC	Dollars	TOTAL PRODUCTION COST
TRAVL	Dollars	TRAVEL \$
TMHC	Dollars	Team Member Handling Charges
OFHRS	Hours	OFF-SITE HOURS
ONHRS	Hours	ON-SITE HOURS
OVOF	Hours	Overtime Offsite
OVON	Hours	Overtime Onsite
OVRs	Hours	Overtime Remote Site
OVMF	Hours	Overtime: Manufacturing
REHRS	Hours	REMOTE-SITE HOURS
SUBHR	Hours	SUB HOURS
STOF	Hours	Straight Time Offsite
STON	Hours	Straight Time Onsite
STRS	Hours	Straight Time Remote Site
STCON	Hours	Straight Time: Contractors
STENG	Hours	Straight Time: Engineering
STMFG	Hours	Straight Time: Manufacturing
STQA	Hours	Straight Time: Quality Assurance
SH	Hours	Subcontractor Hours
TOTLH	Hours	TOTAL DIRECT LABOR HOURS
TOTLHS	Hours	TOTAL DIRECT LABOR HOURS (w/Sub)
TOHRS	Hours	TOTAL HOURS
TOTPCH	Hours	TOTAL LABOR HOURS
TH	Hours	Team Member Hours

### 3.3 Contractor Workforce Report

*File Specification:* The Contractor Workforce Report shall be submitted as an ASCII flat file, one file per contract per reporting period (the reporting period shall agree with NF533M reporting period). Each file contains the following items:

1. Contract Header: This section contains information identifying the contract, identifying the reporting period and number of sites included in the file.
3. Workforce Detail: This section contains the information for each site location with the hours worked by each person on each task.
4. End of File: This is the end of the file for this reporting month.

*NOTE:* Each file will contain the workforce information and personnel information for a complete company. There shall be a separate file for each member of the contract, Prime, Sub, and Team member.

Figure 3.3-1 shows the top level structure of the Contractor Workforce Report file format.

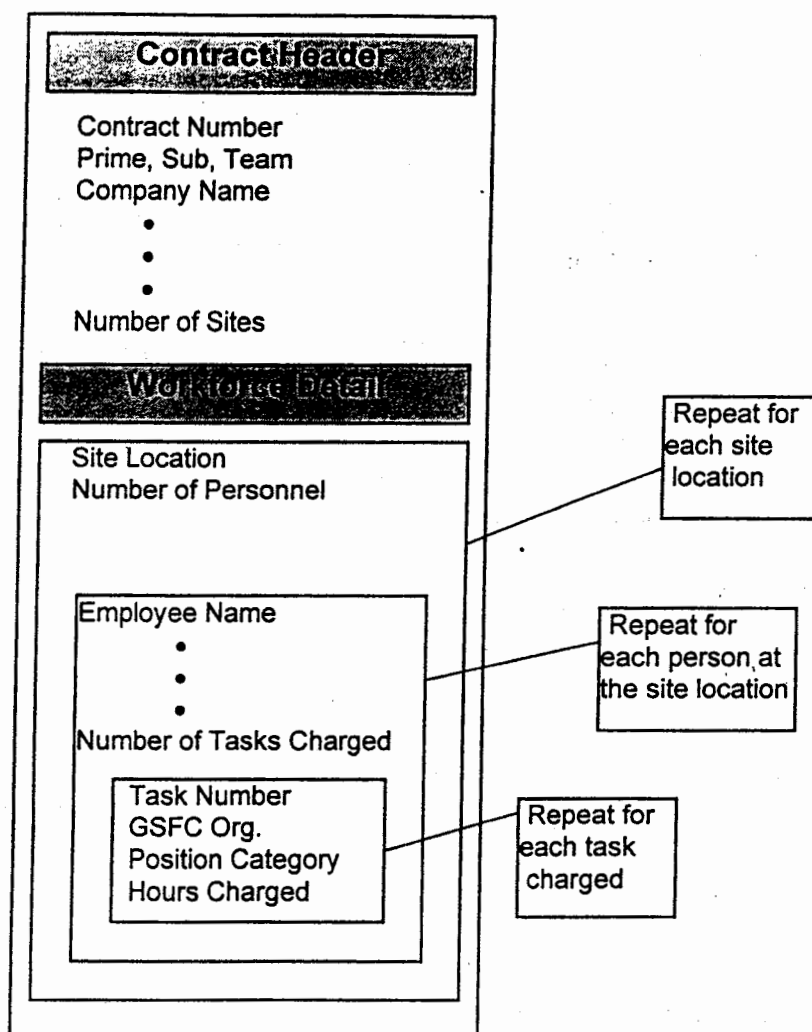


FIGURE 3.3-1 Top Level Format of the Contractor Workforce Report File

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### 3.3.1 Workforce Report Contract Header

This section of the Workforce Report file contains information describing the contract and the reporting period.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Contract Number	1	CHAR 20	NAS5-30123	
PRIME, SUB, or TEAM	2	CHAR 6	PRIME	Denotes who is submitting the report. Field shall contain Prime, Sub, or Team
Company Name	3	CHAR 40	A1 Engineers Inc.	Name of prime contractor, subcontractor, or team member
Report Start Date	4	DATE	2/1/92	Format mm/dd/yy
Report End Date	5	DATE	2/29/92	Format mm/dd/yy. Last day of the accounting period being reported
Prime Contractor's Period End Date	6	DATE	2/29/92	Format mm/dd/yy. Last day of the prime's associated accounting period
Number of Site Locations	7	NUMBER	3	Site Locations include Onsite <sup>1</sup> , Offsite <sup>2</sup> , Remote Site <sup>3</sup> and Mnfsite <sup>3</sup>

### 3.3.2 Workforce Report Detail

This section contains the detail data. It repeats for each Site Location included in the file.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Work Site Location	1	CHAR 8	Onsite <sup>1</sup>	Contains: Onsite, Offsite, or "Other" site <sup>1</sup> .
Number of Operating Hours for the reporting month	2	NUMBER	176	8 hours/day, excluding weekends and holidays
Number personnel reported for this site	3	NUMBER	25	Number personnel included in this work site

The following records repeat for each person reported at this work site:

Employee Name	1	CHAR 40	Doe, John M.	Last, First MI.
Building No. or Name	2	CHAR 20	16W	GSFC Building No., Company Location or Remote Location
Room Number	3	CHAR 10	N115	Include interior rooms, e.g., S116-A

<sup>1</sup> See Glossary, Section 1.1

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<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Telephone No.	4	CHAR 20	61233	5 digits for GSFC, else include area code and full number
Skill Class	5	CHAR 2	SE	Skill class as used in LISTS: SE = Scientist/Engineer PA = Professional Administrative C = Clerical T = Technician
Remarks	6	CHAR 50	New Employee	Only include events for the current month
Number of tasks charged	7	NUMBER	3	Number of tasks charged by this person on this contract

The following records repeat for each task charged by this person:

Task Number	1	CHAR 16	0025-011	Task Number as defined in Section 3.1.
GSFC Supported Organization Code	2	CHAR 10	733.4	GSFC organization code that is being supported for this task
Contract Position Category	3	CHAR 8	HE	Job Category ID as defined in Table 3.3-1
Hours Charged	4	NUMBER	39.5	Hours charged this month on the above task, to tenths of hours

For example, the following shows a file with 2 sites, 1 employee offsite with 1 task and 2 employees onsite with 2 tasks and 1 task respectively:

<u>File Contents</u>	<u>Description</u>
NAS5-12345	Contract No
PRIME	
A1 Engineers, Inc	
2/1/92	
2/29/92	
2/29/92	
2	2 Site Locations
Offsite	Site 1
168	21 8 hour days, President's Day not Observed
1	1 person
Doe, John M.	
A1 Hq	
Rm 3	
301-345-1234	
SE	Scientist/Engineer
New Hire 2/1/92	
1	1 Task Charged



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<u>File Contents</u>	<u>Description</u>
0155	Task Number
562.2	Supports Code 562.2 on task 155
HE	
168	168 hours
Onsite	Site 2
160	20 8 hour days, Holiday not worked
2	2 Employees
Denver, John	First Employee
11	
E124	
61234	
SE	Skill Code
	Remarks
2	2 Tasks for first employee
0033-002	First Task
561	Supports Code 561 on task 0033-002
HE	
80	
0033-003	Second Task
566	Supports Code 566 on task 0033-003
SE	
80	
Smith, John	Second Employee
11	
E135	
67890	
T	
1	One task for second employee
0009	
564	
TB	
160	
END	End of File

### 3.3.3 Workforce Report End of File

The End of the Workforce file is denoted by an END record as follows:

END<cr><lf>

TABLE 3.3-1 Job Categories

This table lists the pre-defined Job Category Identifiers. Additional categories shall be defined by the Technical Officer for each contract.

<u>Identifier</u>	<u>Description</u>
AK	ADMINISTRATIVE ASSISTANT
IA	ADP OPERATOR
IE	ADP SYSTEMS ENGINEER
JA	C&DH ENGINEER
JI	COMMUNICATIONS ENGINEER
AC	CONFIGURATION MGMT CLERK
MA	CONFIGURATION MGMT SPECIALIST
JX	CONTAMINATION CONTROL ENGINEER
EB	ELECTRICAL CAD/DRAFTSMAN TECH
ED	ELECTRICAL DESIGNER
HE	ELECTRICAL ENGINEER
JK	ELECTRONICS PACKAGING ENGINEER
TB	ELECTRONICS TECHNICIAN
JC	EMC/EMI ENGINEER
JG	GSE ENGINEER
JJ	HARNESS DESIGNER
JE	INTEGRATION & TEST ENGINEER
JZ	JR CONTAMINATION CONTROL ENGR
HD	JR ELECTRICAL ENGINEER
TA	JR ELECTRONICS TECH/ASSEMBLER
HK	JR MECHANICAL ENGINEER
TI	JR MECHANICAL TECH/ASSEMBLER
TE	MACHINIST
JM	MATERIALS ENGINEER
TG	MATERIALS TECHNICIAN
EM	MECHANICAL CAD/DRAFTING TECH
HL	MECHANICAL ENGINEER
JR	MECHANICAL PACKAGING ENGINEER
TJ	MECHANICAL TECHNICIAN
JL	PARTS ENGINEER
KB	PRODUCT ASSURANCE MANAGER
MM	PROGRAM MANAGER
IC	PROGRAMMER
ME	PROJECT COORDINATOR/SCHEDULER
ML	PROJECT MANAGER (ELECTRICAL)
MC	PROJECT MANAGER (MECHANICAL)
MS	PROJECT MANAGER (SOFTWARE)
QI	QUALITY CONTROL INSPECTOR
QM	QUALITY CONTROL MANAGER
KA	SAFETY ENGINEER
HO	SOFTWARE ENGINEER
JB	SR C&DH ENGINEER
JH	SR COMMUNICATIONS ENGINEER
MF	SR CONFIGURATION MGMT SPECIALIST

**TABLE 3.3-1**  
(continued)

JW	SR CONTAMINATION CONTROL ENGR
HF	SR ELECTRICAL ENGINEER
TC	SR ELECTRONICS TECHNICIAN
JF	SR GSE ENGINEER
JD	SR INTEGRATION & TEST ENGINEER
TH	SR MATERIALS TECHNICIAN
HM	SR MECHANICAL ENGINEER
TK	SR MECHANICAL TECHNICIAN
HP	SR SOFTWARE ENGINEER
JQ	SR STRESS ANALYSIS ENGINEER
JP	SR STRUCTURAL ANALYSIS ENGINEER
JN	SR SYSTEMS ENGINEER
JY	SR SYSTEMS SAFETY ENGINEER
WC	SR TECHNICAL WRITER
JS	SR THERMAL ENGINEER
TO	SR THERMAL TECHNICIAN
IG	SYSTEMS ANALYST
JO	SYSTEMS ENGINEER
AE	TECHNICAL TYPIST/SECRETARY
WB	TECHNICAL WRITER
JU	THERMAL DEVELOPMENT ENGINEER
JT	THERMAL ENGINEER
JV	THERMAL SYSTEMS ENGINEER
TN	THERMAL TECHNICIAN

### 3.4 Contractor Task Report (CTR)

*File Specification:* The Contractor Task Report (CTR) shall be submitted as an ASCII flat file and may contain multiple tasks. Each file shall contain the following items:

- |    |                  |  |
|----|------------------|--|
| 1. | Contract Header: | This section contains information identifying the contract, whether the contractor is a prime contractor or subcontractor, and the Company Name. |
| 2. | Task Header:     | This section contains information identifying the task description.  |
| 3. | Task Detail:     | This section contains the information from the cost estimate, Items 14-17, from the Contractor Task Report for each task.                        |
| 4. | Task Summary:    | This section contains the summary information from lines 18 through 35 of the CTR.   |
| 5. | End of File:     | This is the end of the file for this CTR file.   |

**Reporting Categories shall be provided in the order specified in Section 2.3.**

Figure 3.4-1 shows the top level structure of the CTR File Format.

*Assumptions:* If there are assumptions made by the contractor in developing the cost estimate, or clarifications to the estimate, they are to be submitted in Microsoft Word file, Version 6.0 or higher, with a separate file for each CTR. The specification for this file is described in Section 3.4.6.

<b>CTR CONTRACT HEADER</b>	
Contract Number Prime, Sub, Team Company Name Number of Tasks in this file	
<b>CTR TASK HEADER</b>	
Date of CTR Originator of CTR Place of Performance ATR and Mail Code Task Description Task Number . . . Remarks (9 lines)	
<b>CTR TASK DETAIL</b>	
Job Categories Reporting Categories	
<b>CTR TASK SUMMARY</b>	
Summary Data, Items 18 through 35	

Repeat for  
each Task in  
the File

FIGURE 3.4-1 Top Level Format of the of Contractor Task Report File

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### 3.4.1 CTR Contract Header

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Contract Number & Mod	1	CHAR 20	NAS5-30123	
PRIME, SUB or TEAM	2	CHAR 6	PRIME	Denotes who is submitting the report. Field shall contain Prime, Sub, or Team as appropriate.
Company Name	3	CHAR 40	A1 Engineers Inc.	Name of prime contractor, subcontractor or team member.
Number of Tasks in this file	4	NUMERIC 15		Number of tasks in this file. Count 2 and 3 page CTR's as 1 task

The following sections repeat for each task (2 and 3 page CTR's will repeat 2 and 3 times respectively).

### 3.4.2 CTR Task Header

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Date of CTR	1	CHAR 8	05/15/93	Reference date on 533 Form
Originator of CTR	2	CHAR 32	J. Smith	Contractor point of contact.
Place of Performance	3	CHAR 32	Greenbelt, Md	
ATR's Name	4	CHAR 32	J. Johnson, 734	Assistant Tech. Rep.
ATR's GSFC Org Code	5	CHAR 32	J. Johnson, 734	Assistant Tech. Rep. organization code
Task Description	6	CHAR 80	XTE IGSE	Short description of work.
Task Number	7	CHAR 16	0155	
Task Modification	8	CHAR 1	A	Alphabetic amendment letter (e.g. A,B,C, etc.). Leave blank if no amendment has been issued.
WBS Number	9	CHAR 16	487.1.2	WBS number, if applicable.
Task Start Date	10	CHAR 8	11/01/89	mm/dd/yy.
Task Continuation	11	CHAR 1	Y	Task length indication: 25-36 months = Y (3 Page CTR) 13-24 months = Y (2 Page CTR) 1-12 months = N (1 Page CTR)
Task End Date	12	CHAR 8	02/28/91	mm/dd/yy.
First month of CTR	13	CHAR 8	10/01/90	First month for which CTR applies.
Cum. Actual Thru Date	14	CHAR 8	09/30/90	mm/dd/yy. Date for Column 17.
Overhead Percentages	15	NUMERIC	0.389 0.389 0.775 0.77	Provide the four rates from Item 19.
G & A Percentage	16	NUMERIC	0.10	G&A rate from Item 26.
Team Member Handling	17	NUMERIC	0.045	Rate from Item 28.
Base Fee	18	NUMERIC	0	Rate from Item 30
Fixed Fee	19	NUMERIC	0.071	Rate from Item 31.

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<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Award Fee	20	NUMERIC	0.06	Rate from Item 32.
Reason for CTR	21	CHAR 50		Reason for CTR from Item 36.
Assumptions present flag	22	CHAR 1	N	Contains Y if an Assumptions File is included for this CTR, else contains N. Assumptions are a separate Microsoft Word File. (See 3.4.6)
Remarks	9 records	CHAR 50	Sub is HSTX	Remarks lines from Item 36.

### 3.4.3 CTR Task Detail

The next x records, where x is the number of lines representing the Job Categories used in the task, contain one row of data per record as it appears on the CTR. (See Table 3.3-1 for Job Category Identifiers.) Each record shall consist of 19 fields. The first field shall contain the Job Category Code and the remaining 18 fields shall contain the data for each of the columns in the CTR Items 14-16. Item 14 contains 13 columns with columns a-l for the twelve months of the CTR and column 14m for the Total Hours for the Job Category. Column 15 is for the Rate (dollars/hour) for the Job Category. Columns 16a, b, c, and d are the computed total dollars for the Job Category. A zero (0.0) value shall be entered for the unused column(s). Note: The rate is a decimal value with fractional values accepted with the decimal point included. There is no entry required for the Cumulative Actual column, Item 17.

For the first page of a two-page CTR and the first and second pages of a three-page CTR, the data for columns 14m, and 16 shall be entered as zero. These columns are only used for the last page of the CTR. (For a one-page CTR, the first page is the last page). The records shall be formatted as follows:

```
JOB_ID 14a 14b 14c 14d 14e 14f 14g 14h 14i 14j 14k 14l 14m 15 16a 16b 16c 16d<cr><lf>
```

**Reporting Categories shall be provided in the order specified in Section 2.3.**

EXAMPLE:

```
HE 154 154 154 154 154 154 154 154 154 154 154 154 1848 1.4531 2680 0 0 0<cr><lf>
```

```
END<cr><lf>
```

The next y records, where y is the number of Operating Reporting Categories in the task, contain one row of data per record as it appears on the CTR. Each record shall consist of 20 fields. The first field shall contain the Reporting Category Code and the remaining 19 fields shall contain the data for each of the columns in the CTR. (See Table 3.2-1 for pre-defined Reporting Category Identifiers.) Data for items 14a-14m, 15, 16a-16d, and 17 shall be included (Item 15 as well as other fields in columns 16 shall be included as a zero).

For the first page of a two-page CTR and the first and second pages of a three-page CTR, the data for columns 14m, 15, 16, and 17 shall be entered as zero. These columns are only used for the last page of the CTR. (For a one-page CTR, the first page is the last page). The records shall be formatted as follows:

```
REP_CAT 14a 14b 14c 14d 14e 14f 14g 14h 14i 14j 14k 14l 14m 0 16a 16b 16c 16d 17<cr><lf>
```

Followed by an END of section record: END<cr><lf>

**Reporting Categories shall be provided in the order specified in Section 2.3.**

**EXAMPLE:**

END<cr><lf>



### 3.4.6 Assumptions and Clarifications to the CTR

The Assumptions and Clarifications file(s) will be included with the CTR **ONLY** if there are assumptions and clarifications that are associated with the CTR. A separate Microsoft Word, Version 6.0 or higher, file shall be submitted for each CTR that has Assumptions and Clarifications associated with it. The file shall be saved in Page Layout View.

The filename for each assumptions file for a CTR shall be formatted as follows:

tttt-sss.mod

Where:

tttt = the task number

sss = the subtask number, if applicable

mod = the task modification/amendment letter, if the first CTR  
leave the period off and do not include the mod.

If a subtask report, a hyphen (-) shall be included  
between the task and subtask.

Do not include internal contract numbers (e.g., 9335)  
in the filename.

Examples:

0025-011.E is the assumptions for task 25, subtask 11, Mod E

0066.C is the assumptions for task 66 Mod C

0201 is the assumptions for task 201 original baseline

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### 3.5 Monthly Technical Progress Report

Monthly Technical Progress Reports shall be submitted for each active task. Multiple reports may be on the same diskette and multiple diskettes may be used when necessary.

**Media Specification:** IBM PC compatible  
3.5" diskette  
High density

**Diskette Label:** A label shall be affixed to the diskette(s) containing the following information:

- contract number (e.g., NAS5-xxxx)
- company name
- report type: Monthly Technical Progress Report
- period start and end date
- diskette number (e.g., 1 of 2)

**File Specification:**

- All files shall be in Microsoft Word Version 6.0 or higher
- File shall be saved in Page Layout View
- There shall not be more than one separate file for each task
- When *more than one subtask* is included in the same file, one copy of the file shall be provided and the filename shall include only the main task number.  
Example: One file includes the report for Tasks 25-1, 25-2, and 25-3.  
Provide one file named 0025.DOC.
- When *one subtask* is included in the file, the filename shall include the task number and subtask number.  
Example: One file includes the report for Task 31-1 only.  
Provide one file named 0031-001.DOC.

**File Naming Spec:** Files shall be named using the following template: tttt-sss.DOC, where:  
tttt = the task number  
sss = the subtask number, if applicable  
Provide leading zeros where needed.  
If a subtask report, a hyphen (-) shall be included between the task and subtask.  
If there is no subtask, omit the -sss.  
Do not include internal contract numbers in the filename.

Example:

0002.DOC	is the report for Task 2
0025.DOC	is the report for Subtasks 25-1, 25-2, and 25-3
0031-001.DOC	is the report for Subtask 31-1

### 3.6 Other Direct Costs (ODC) Report

*File Specification:* The Other Direct Costs (ODC) Report shall be submitted as an ASCII flat file, one file per contract per reporting period (the reporting period shall agree with NF533M reporting period). Each file contains the following items:

1. Contract Header: This section contains information identifying the contract, identifying the reporting period and number of tasks included in the file.
2. Workforce Detail: This section contains the information for each task with the ODC charges by type, Miscellaneous, Travel, and Materials.
4. End of File: This is the end of the file for this reporting month.

**NOTE:** Each file will contain the ODC information for a complete company. There shall be a separate file for each member of the contract, Prime, Sub, and Team member.

Figure 3.6-1 shows the top level structure of the Other Direct Costs (ODC) Report file format.

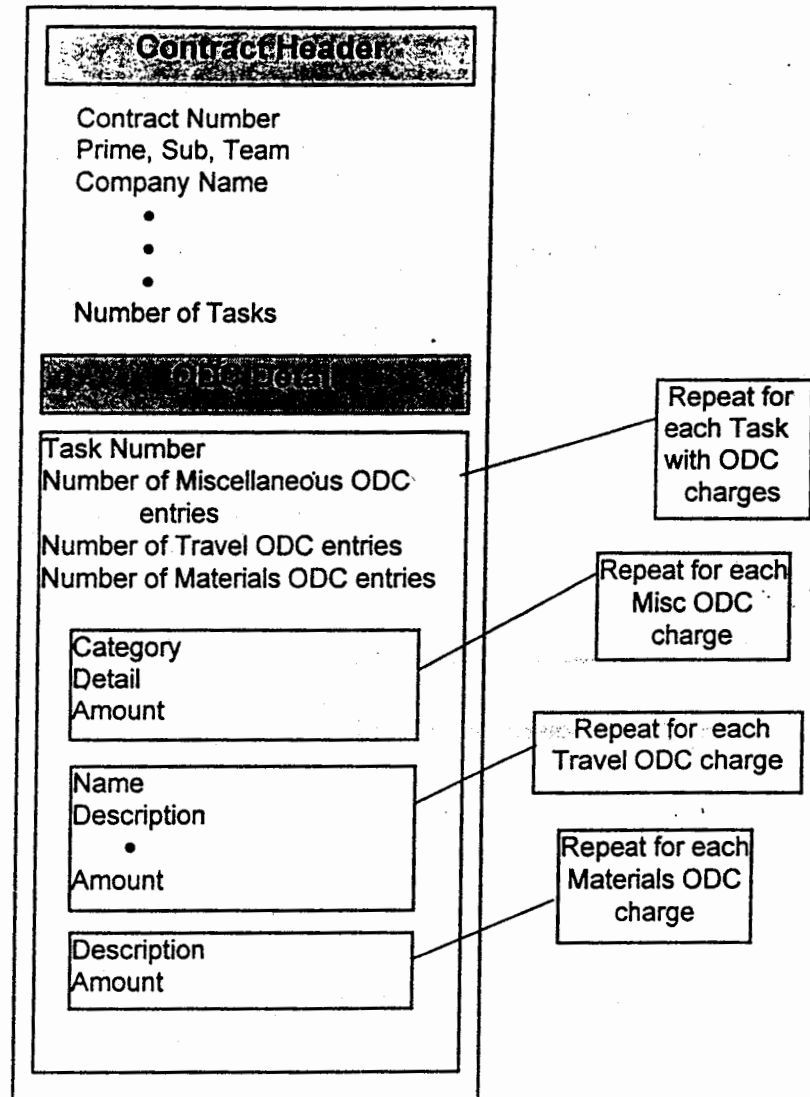


FIGURE 3.6-1 Top Level Format of the ODC Reports File

### 3.6.1 ODC File Contract Header

This section of the ODC Report file contains information describing the contract and the reporting period.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Contract Number	1	CHAR 20	NAS5-30123	
PRIME, SUB, or TEAM	2	CHAR 6	PRIME	Denotes who is submitting the report. Field shall contain Prime, Sub, or Team
Company Name	3	CHAR 40	A1 Engineers Inc.	Name of prime contractor, subcontractor, or team member
Report Start Date	4	DATE	2/1/92	Format mm/dd/yy
Report End Date	5	DATE	2/29/92	Format mm/dd/yy. Last day of the accounting period being reported
Prime Contractor's Period End Date	6	DATE	2/29/92	Format mm/dd/yy. Last day of the prime's associated accounting period
Number of Tasks	7	NUMBER	31	Number of tasks with ODC charges included in this file

### 3.6.2 ODC File Detail

This section contains the detail data. It repeats for each Task included in the file.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Task Number	1	CHAR 8	0025-002	Task Number
Number of Miscellaneous ODC entries	2	NUMBER	3	Number of entries for this task, if None, enter zero (0)
Number of Travel ODC entries	3	NUMBER	3	Number of entries for this task, if None, enter zero (0)
Number of Materials ODC entries	4	NUMBER	3	Number of entries for this task, if None, enter zero (0)

The following three records repeat for each Miscellaneous ODC entry, if there are no Miscellaneous ODC entries, there are no records.

ODC category id	1	CHAR 8	COPIER	ODC category identifier, See Table 3.6-1.
ODC Detail Description	2	CHAR 48	214 Copies	
ODC Amount	3	NUMBER	6.76	Dollars and cents

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The following five records repeat for each Travel ODC entry, if there are no Travel ODC entries, there are no records.

Traveler's Name	1	CHAR 32	Doe, John	Last name, first name
Travel Description	2	CHAR 48	LOCAL TRAVEL	
Travel Miles	2	NUMBER	78	Round up tenths
Mileage Rate	2	NUMBER	0.31	Cost per mile
Travel Amount	3	NUMBER	23.56	Dollars and cents

The following two records repeat for each Materials ODC entry, if there are no Materials ODC entries, there are no records.

Material Description	2	CHAR 48	PO971456	PO #, Invoice #, etc.
Material Amount	2	NUMBER	141.98	Dollars and cents

### 3.6.3 ODC File End of File

Provide an END<cr><lf> record as the last record of the file.

**TABLE 3.6-1 Miscellaneous Other Direct Costs Categories**

These are the Identifiers to be used in the ODC Report File to identify the Miscellaneous ODC categories. The Technical Officer for the contract will assign additional identifiers when required by the specific contract.

<b><u>Identifier</u></b>	<b><u>Description</u></b>
CAE/CAD	CAE/CAD Charge
COMP	Computer Charge
COPIER	Copier Usage
EPXLAB	Epoxy Lab Usage Charge
HIS	Information Handling System
MACH	Machine Shop Usage Charge
MISC	Miscellaneous
PO	Purchase Order
RFTEST	RF Test Equipment Usage Charge
SHIP	Federal Express and UPS
SOLDER	Soldering Charge
SUPPLY	Packaging/Supplies Charge
TEL	Telephone Usage
THERM	Thermal Chamber Usage Charge

### 3.7 NASA FORM 533Q File Format

*File Specification:* NASA Form 533Q shall be submitted as an ASCII flat file, one file per contract per quarter. Each file should contain the following items:

1. Contract Header: This section contains information identifying the contract, describing the scope of the contract and identifying the reporting period.
2. Contract Summary: This section contains the information from Items 7 to 10 of the 533Q Summary report (see section 2.7). This is the cost and hours data for the contract overall.
3. Task Detail: This section contains the information from Items 7 to 10 of the 533Q for each task.
4. End of File: This is the end of the file for this reporting quarter.

**NOTE:** Each file will contain the summary information and task information for a complete contract. In other words, a file will not correspond to a single 533Q hardcopy form, but rather will contain all the information provided by the multiple hardcopy reports for each contract.

**Reporting Categories shall be provided in the order specified in Section 2.7.**

Figure 3.7-1 depicts the Top Level File Structure for electronic submission of the NF533Q Report.



<b>CONTRACT HEADER</b>
Contract Number Prime, Sub, Team Contract Type Company Name • • • Spare Fields
<b>CONTRACT SUMMARY</b>
Data Elements for: Items 7 thru 11 of the 533Q
<b>TASK 1 DETAIL</b>
TASK HEADER Data Elements for: Items 7 thru 11 of the 533Q
<b>TASK 2 DETAIL</b>
TASK HEADER Data Elements for: Items 7 thru 11 of the 533Q
• • •
<b>TASK n DETAIL</b>
TASK HEADER Data Elements for: Items 7 thru 11 of the 533Q

FIGURE 3.7-1 Top Level Format of the NF533Q File

## CATS Interface Specification

### 3.7.1 NF533Q Contract Header

This section of the NF533Q File describes the contract and general information for the NF533Q report including financial information.

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
Contract Number & Mod	1	CHAR 20	NAS5-30123	
PRIME, SUB, or TEAM	2	CHAR 6	PRIME	Denotes who is submitting the report. Field shall contain Prime, Sub, or Team
Type of Contract	3	CHAR 8	CPFF	
Company Name	4	CHAR 40	A1 Engineers Inc.	Name of prime contractor, subcontractor, or team member
Company Street Address	5	CHAR 40	1234 Fifth Street	Street Address.
Company City Address	6	CHAR 40	Greenbelt, MD 20770	City, State, Zip.
Task Number	7	CHAR 16	SUMMARY	Always contains SUMMARY.
WBS Number	8	CHAR 16	100.3	WBS number, if applicable.
Task Status	9	CHAR 1		Blank for SUMMARY.
Percent Complete	10	NUMERIC		Blank for SUMMARY.
Scope of Work	11	CHAR 40	XTE IGSE	Short description of work.
Authorized Contract Rep	12	CHAR 32	John Doe	Contractor's representative.
ATR Name	13	CHAR 32	100.3	Blank for SUMMARY.
ATR's GSFC Org Code	14	CHAR 32		Blank for SUMMARY.
Date of Quarterly Report	15	CHAR 8	09/04/92	mm/dd/yy.
Quarter Beginning Date	16	CHAR 8	07/01/92	mm/dd/yy.
Prime's Quarter Begin Date	17	CHAR 8	7/1/92	mm/dd/yy
Contract Value, Cost	18	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Contract Value, Fee	19	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Cost	20	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Fee	21	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Invoice Amount Billed	22	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Total Payments Received	23	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Date for Column 7a	24	CHAR 8	05/31/92	mm/dd/yy.
From Date for Column 7b	25	CHAR 8	06/01/92	mm/dd/yy.
To Date for Column 7b	26	CHAR 8	06/30/92	mm/dd/yy.
Date for Column 7c	27	CHAR 8	06/30/92	mm/dd/yy.
From Date for Column 8a	28	CHAR 8	07/01/92	mm/dd/yy.
To Date for Column 8a	29	CHAR 8	07/31/92	mm/dd/yy.

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### 3.7.3 NF533Q Task Detail

This section of the NF533Q file contains the information for each individual task of the contract. The format is repeated for each task in the report.

#### *First Task of the Report*

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
<b><u>TASK HEADER</u></b>				
Task Number	1 record	CHAR 16	155	
Task Modification	1 record	CHAR 1	B	
WBS Number	1 record	CHAR 16	100.3	WBS number, if applicable.
Task Status	1 record	CHAR 1	A	A=Active Task, C=Closed Task, or I=Inactive Task <sup>1</sup> .
Percent Complete	1 record	NUMERIC	35	Do not use the % character.
Scope of Work	1 record	CHAR 40	XTE IGSE	Short description of work.
Authorized Contract Rep	1 record	CHAR 32	John Doe	Contractor's representative.
ATR Name	1 record	CHAR 16	J. Smith	Assistant Tech. Rep.
ATR's GSFC Org Code	1 record	CHAR 32	560	ATR's organization code
Date of Report	1 record	CHAR 8	09/02/92	mm/dd/yy.
Quarter Beginning Date	1 record	CHAR 8	07/01/92	mm/dd/yy.
Prime's Quarter Begin Date	1 recd	CHAR 8	07/01/92	mm/dd/yy.
Contract Value, Cost	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Contract Value, Fee	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Cost	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Fund Limitation, Fee	1 record	NUMERIC	dddd.cc	Do not include \$ or , symbols!
Invoice Amount Billed	1 record	NUMERIC		Blank for single tasks.
Total Payments Received	1 record	NUMERIC		Blank for single tasks.
Date for Column 7a	1 record	CHAR 8	05/31/92	mm/dd/yy.
From Date for Column 7b	1 record	CHAR 8	06/01/92	mm/dd/yy.
To Date for Column 7b	1 record	CHAR 8	06/30/92	mm/dd/yy.
Date for Column 7c	1 record	CHAR 8	06/30/92	mm/dd/yy.
From Date for Column 8a	1 record	CHAR 8	07/01/92	mm/dd/yy.
To Date for Column 8a	1 record	CHAR 8	07/31/92	mm/dd/yy.
From Date for Column 8b	1 record	CHAR 8	08/01/92	mm/dd/yy.
To Date for Column 8b	1 record	CHAR 8	08/31/92	mm/dd/yy.

<sup>1</sup>An Inactive task is one whose performance period has ended but its 533 remaining plan is *not* zero (columns 8a, 8b, and 8c). A Closed task is one whose performance period has ended and its 533 remaining plan *equals* zero (columns 8a, 8b, and 8c).

## CATS Interface Specification

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
From Date for Column 8b	30	CHAR 8	08/01/92	mm/dd/yy.
To Date for Column 8b	31	CHAR 8	08/31/92	mm/dd/yy.
From Date for Column 8c	32	CHAR 8	09/01/92	mm/dd/yy.
To Date for Column 8c	33	CHAR 8	09/30/92	mm/dd/yy.
From Date for Column 8d	34	CHAR 8	10/01/92	mm/dd/yy.
To Date for Column 8d	35	CHAR 8	12/31/92	mm/dd/yy.
From Date for Column 8e	36	CHAR 8	01/01/93	mm/dd/yy.
To Date for Column 8e	37	CHAR 8	03/31/93	mm/dd/yy.
From Date for Column 8f	38	CHAR 8	04/01/93	mm/dd/yy.
To Date for Column 8f	39	CHAR 8	06/30/93	mm/dd/yy.
From Date for Column 8g	40	CHAR 8	07/01/93	mm/dd/yy.
To Date for Column 8g	41	CHAR 8	09/30/93	mm/dd/yy.
From Date for Column 8h	42	CHAR 8	10/01/93	mm/dd/yy.
To Date for Column 8h	43	CHAR 8	09/30/94	mm/dd/yy.
Estimated Completion Date	44	CHAR 8	10/31/94	mm/dd/yy.
Remarks	45	CHAR 100		
Number of Tasks	46	NUMERIC	19	
SPARE	20 records	0		These items are not used at the present time. The file shall contain 0 for these fields.

### 3.7.2 NF533Q Contract Summary

The next x records, where x is the number of lines under columns 7 through 11, contain one row of data per record as it appears on the 533Q. Each record shall consist of 17 fields. The first field shall contain the Reporting Category Code and the remaining 16 fields shall contain the data for each of the columns in the 533Q items 7-11. If all 16 values for the category are zero, the record may be omitted from the file; however, the END record is required. See Table 3.2-1 for pre-defined Reporting Category identifiers. The Technical Officer for each contract shall define additional categories. The records shall be formatted as follows:

OP\_CAT 7a 7b 7c 8a 8b 8c 8d 8e 8f 8g 8h 8i 8j 9a 9b 11<cr><lf>

Followed by an END of section record:

END<cr><lf>

**Reporting Categories shall be provided in the order specified in Section 2.7.**

EXAMPLE:

STON 2764 6065 2825 6670 6704 5906 7354 844 0 0 0 0 27478 3099 3205 0<cr><lf> Straight Time Onsite

END<cr><lf>

Last Record for Summary

## CATS Interface Specification

<u>Data Element</u>	<u>Record #</u>	<u>Format</u>	<u>Example</u>	<u>Comments</u>
From Date for Column 8c	1 record	CHAR 8	09/01/92	mm/dd/yy.
To Date for Column 8c	1 record	CHAR 8	09/30/92	mm/dd/yy.
From Date for Column 8d	1 record	CHAR 8	10/01/92	mm/dd/yy.
To Date for Column 8d	1 record	CHAR 8	12/31/92	mm/dd/yy.
From Date for Column 8e	1 record	CHAR 8	01/01/93	mm/dd/yy.
To Date for Column 8e	1 record	CHAR 8	03/31/93	mm/dd/yy.
From Date for Column 8f	1 record	CHAR 8	04/01/93	mm/dd/yy.
To Date for Column 8f	1 record	CHAR 8	06/30/93	mm/dd/yy.
From Date for Column 8g	1 record	CHAR 8	07/01/93	mm/dd/yy.
To Date for Column 8g	1 record	CHAR 8	09/30/93	mm/dd/yy.
From Date for Column 8h	1 record	CHAR 8	10/01/93	mm/dd/yy.
To Date for Column 8h	1 record	CHAR 8	09/30/94	mm/dd/yy.
Estimated Completion Date	1 recd	CHAR 8	09/30/94	mm/dd/yy.
Remarks	1 record	CHAR 100		
SPARE	10 records	0		These items are not used at the present time. The file shall contain 0 for these fields.

### **Data Elements for Task #1**

The next x records, where x is the number of lines under columns 7 through 11, contain one row of data per record as it appears on the 533Q. Each record shall consist of 17 fields. The first field shall contain the Reporting Category Code and the remaining 16 fields shall contain the data for each of the columns in the 533Q items 7-11. If all 16 values for the category are zero, the record may be omitted from the file; however, the END record is required. See Table 3.2-1 pre-defined Reporting Category identifiers. The Technical Officer for each contract shall define additional categories. The records shall be formatted as follows:

OP\_CAT 7a 7b 7c 8a 8b 8c 8d 8e 8f 8g 8h 8i 8j 9a 9b 10<cr><lf>

Followed by an END of section record:

END<cr><lf>

**Reporting Categories shall be provided in the order specified in Section 2.7.**

EXAMPLE:

STON 2764 6065 2825 6670 6704 5906 7354 844 0 0 0 0 27478 3099 3205 0<cr><lf> Straight Time Onsite

END<cr><lf>

Last Record for Summary

**Repeat Section 3.7.3 for each task under the contract.**

## CATS Interface Specification

### 3.7.4 NF533Q End of File

The END<cr><lf> record for the last task is the end of the file.

**List of Installation -Accountable  
Government Property**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1	Personal Computers, Monitors, and Printers	1 Lot Per Employee*
2	Software Manuals & Diskettes	1 Lot Per Employee*
3	Desks and Chairs	1 Lot Per Employee*
4	Telephone	1 Per Employee*
5	Filing Cabinets, Bookcases, and Other Storage Containers	1 Lot Per Employee*
6	Misc. Office Items & Supplies	1 Lot Per Employee*
7	Office Keys	1 Lot Per Employee*
8	Engineering Tools and Equipment	As Necessary

\* Items to be provided as available.

**QSS Document #4021**

**ATTACHMENT F**

**MISSION ASSURANCE PROGRAM PLAN**

**For**

**Multidisciplinary Engineering Development Services (MEDS)**

**In response to**

**Goddard Space Flight Center  
RFP5-58392/237**

**September 2, 1998**

**QSS GROUP, INC.  
4500 FORBES BOULEVARD  
LANHAM, MD 20706**



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## 1.0 INTRODUCTION

This document presents the QSS Group, Inc. (QSS) plan for conducting mission assurance and systems safety services under Multidisciplinary Engineering Development Services Contract (MEDS). The Plan complies with the mission assurance and systems safety requirements for the Multidisciplinary Engineering Development Contract specified in the Goddard Space Flight Center Request for Proposal RFP5-58392/237. The mission assurance requirements apply to all levels of flight hardware and software when prescribed in a MEDS Task Order. The Plan also addresses system safety requirements related to MEDS support of Space Shuttle missions and Expendable Launch Vehicle (ELV) missions at the Wallops Flight Facility, Eastern Test Range (ETR) and the Western Test Range (WTR).

## 2.0 BACKGROUND

QSS is the Prime Contractor for the MEDS contract. The first tier subcontractors, performing under a teaming arrangement with QSS, are the Orbital Sciences Corporation (OSC) and Raytheon STX, Inc. (Raytheon). Henceforth in this Plan, the term "Team" includes all QSS, Orbital, and Raytheon personnel who perform work on the MEDS contract.

OSC, the teammate assigned the role of hardware fabrication, is currently performing this type of work for GSFC. In the performance of this work, OSC applies a set of quality systems that are ISO 9000 compliant. The OSC quality systems are incorporated into this QSS Mission Assurance Program Plan.

This Plan is incorporated into the present subcontractor agreements with Orbital and Raytheon. Any modifications to the Plan required as a result of the contract negotiation process will be incorporated into the final subcontractor agreements to be completed after contract award.

## 3.0 PLAN OVERVIEW

The Mission Assurance Program Plan is implemented at four levels:

- a. Level I, The Program Plan: This document defines the quality assurance (QA) policy, identifies the responsibilities, prescribes the mission assurance and systems safety requirements, defines the plan for the implementation procedures, and prescribes the documentation of quality-related records.
- b. Level II, The Operating Procedures: These are Quality Assurance Instruction (QAI) Procedures that define the activity required to implement the requirements.

- c. Level III, Process Procedures, Work Instructions, Test Procedures, and Forms: These documents provide the step-by-step instructions on how to complete and/or document an activity.
- d. Level IV, Quality Records: These documents provide the record of quality assurance activity that has been conducted.

The Plan prescribes the Level I and Level II documents. The Level III and Level IV procedures and documentation are developed and completed during the implementation phase of the MEDS mission assurance and systems safety services.

## **4.0 RESPONSIBILITIES**

### **4.1 OVERALL RESPONSIBILITY**

The MEDS Program Manager has the overall responsibility for the Mission Assurance Program Plan. This includes the development and maintenance of the Plan, the oversight management of the Performance Assurance program to assure compliance with Task Order performance specifications and quality assurance requirements and the staffing to support the mission assurance program requirements.

### **4.2 ADMINISTRATION**

The MEDS Performance Assurance Manager is responsible for the administration of the Mission Assurance Program Plan. This includes:

- a. Participating in the response to a request for a Task Plan by contributing the quality assurance approach and staffing plan commensurate with the Task Order performance requirements and consistent with the MEDS Mission Assurance Program Plan.
- b. Contributing the mission assurance component of a Task Work Control Plan.
- c. Development of Level III quality assurance plans.
- d. Quality assurance activity Level IV documentation and the review and approval of other Level IV documentation required by the Plan.
- e. Assuring all purchase orders meet applicable QA standards/requirements.
- f. Supervision of the MEDS staff conducting quality assurance activity.

- g. Management of quality assurance requirements applicable to work subcontracted outside of the MEDS Team.
- h. Development of quality assurance training programs and the training of MEDS personnel, as required.

#### **4.3 EXECUTION**

The MEDS Team is responsible for execution of the Mission Assurance requirements during the implementation of tasks in accordance with the Task performance requirements and quality assurance standards.

Subcontractors performing MEDS tasks with applicable quality assurance standards shall be required to conform to relevant elements of this Plan.

#### **5.0 APPLICABILITY**

The Plan applies to flight hardware and software developed or supported by MEDS, and as prescribed in a Task Order.

#### **6.0 REQUIREMENTS OVERVIEW**

##### **6.1 MISSION ASSURANCE**

##### **6.1.1 GENERAL REQUIREMENTS**

For all levels of flight hardware and software provided by QSS, QSS shall establish and maintain a mission assurance program commensurate with mission requirements as specified by the Task.

##### **6.1.2 SPECIAL REQUIREMENTS**

The QSS Team shall adhere to all applicable portions of the following documents and/or specifications in the performance of this contract. The latest updated version shall apply:

- GSFC X-673-64-1F, "Engineering Drawing Standards Manual" (December 1994)
- GSFC S-313-009, "Fluorescent Penetrant Test Method Requirements and Guidelines" (November 1990)
- NASA STD 8739.3, "Soldered Electrical Connections"

### **6.1.3 ISO 9000 COMPLIANCE REQUIREMENTS**

QSS shall establish and maintain practices, procedures, and processes that are ISO 9000 compliant.

## **6.2 SYSTEMS SAFETY**

The QSS mission assurance program shall incorporate a system safety program which meets the requirements of NSTS 1700.7B, "Safety Policy and Requirements for Payloads Using the Space Transportation System" and 2.45 SPW S-100/KHB 1700.7B, "Space Shuttle Payload Ground Safety Handbook" for shuttle missions. For ELV missions at ETR or WTR, the system safety program shall meet the requirements of EWR 127-1, "Eastern and Western Range Safety Requirements."

## **7.0 MISSION ASSURANCE PLAN**

### **7.1 LEVEL I**

#### **7.1.1 DESIGN CONTROL**

##### **7.1.1.1 General**

Procedures shall be established and documents maintained to control and verify the design of the product in order to ensure that the specified requirements are met.

##### **7.1.1.2 Design and Development Planning**

Plans shall be prepared for design and development activity with applicable QA requirements. The plans shall describe or reference these activities, and define responsibility for their implementation. The design and development activities shall be assigned to qualified personnel equipped with adequate resources. The plans shall be updated, as the design evolves.

##### **7.1.1.3 Organizational and Technical Interfaces**

Organizational and technical interfaces between different groups, which input into the design process shall be defined and the necessary information documented, transmitted, and regularly reviewed.

##### **7.1.1.4 Design Input**

The design input shall be identified, documented, and reviewed for adequacy and completeness. Design performance parameters such as margins of safety shall

be prescribed in the Task Order Performance Standards or by the Code 300 Reliability Office.

#### **7.1.1.5 Design Output**

The design output shall be documented and expressed in terms that can be verified against design performance requirements and validated.

Design output shall:

- a. Meet the design performance requirements;
- b. Contain or make reference to acceptance criteria;
- c. Identify those characteristics of the design that are crucial to the safe and proper functioning of the product (e.g., operating, storage, handling, maintenance, and disposal requirements).

Design-output documents shall be reviewed before release.

#### **7.1.1.6 Design Review**

At appropriate stages of design, formal documented reviews of the design results shall be planned and conducted for the Government. Participants at each design review shall include representatives of all functions concerned with the design stage being reviewed, as well as other specialist personnel, as required. Records of such reviews shall be maintained.

#### **7.1.1.7 Design Verification**

At appropriate stages of design, design verification shall be performed to ensure that the design-stage output meets the design performance requirements. The design-verification measures shall be recorded.

#### **7.1.1.8 Design Validation**

Design validation shall be performed to ensure that the product conforms to the defined mission requirements. Environmental tests shall be conducted to validate the design and performance in the flight environment. The Tests to be performed and the parameters of the tests shall be prescribed in the Task Order or by the Code 300 Reliability Office.

#### **7.1.1.9 Design Changes**

All design changes and modifications shall be identified, documented, reviewed, and approved by authorized personnel before their implementation.

## **7.1.2 DOCUMENT AND DATA CONTROL**

### **7.1.2.1 General**

Procedures shall be established and maintained to control all documents and data that relate to the QA Program.

### **7.1.2.2 Document and Data Approval**

The documents and data shall be reviewed and approved for adequacy by authorized personnel prior to issue. A master list or equivalent document-control procedure identifying the current revision status of documents shall be established and be readily available to preclude the use of invalid and/or obsolete documents.

### **7.1.2.3 Document and Data Changes**

Changes to documents and data shall be reviewed and approved by the same functions/organizations that performed the original review and approval, unless specifically designated otherwise. The designated functions/organizations shall have access to pertinent background information upon which to base their review and approval.

Where practicable, the nature of the change shall be identified in the document or the appropriate attachments.

## **7.1.3 PURCHASING**

### **7.1.3.1 General**

QSS shall establish and maintain documented procedures to ensure that purchased items conform to specified requirements. The EEE parts procurement process shall follow the Code 300 standards for sampling and qualification as identified in the Task Order.

### **7.1.3.2 Evaluation of Subcontractors**

QSS shall:

- a. Evaluate and select subcontractors on the basis of their ability to meet subcontract requirements including the quality system and any specific quality-assurance requirements;

- b. Define the type and extent of control exercised by the QSS Team over subcontracts. This shall be dependent upon the type of product, the impact of subcontracted product on the quality of final product, and, where applicable, on the quality audit reports and/or quality records of the previously demonstrated capability and performance of subcontractors;
- c. Establish and maintain quality records of acceptable subcontractors.

#### **7.1.3.3 Purchasing Data**

Purchasing documents shall contain data clearly describing the product ordered, including where applicable:

- a. The type, class, grade, or other precise identification;
- b. The title or other positive identification, and applicable issues of specifications, drawings, process requirements, inspection instructions, and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment, and personnel;
- c. The title, number, and issue of the quality-system standard to be applied.

QSS shall review and approve purchasing documents for adequacy of the specified requirements prior to release. No procurement shall be made without a properly executed Purchase Request (PR) or Equipment Purchase Request (ERP) and Appropriations of Capital Expenditures (ACE), as defined in the purchasing operating procedure. All purchase requests shall contain appropriate data that clearly identifies the material or services ordered. When necessary, supporting data is utilized. Supporting data includes drawings, detailed technical specifications and procurement quality requirements. These supporting documents shall be reviewed for adequacy prior to their release for obtaining quotations and initiating purchasing.

#### **7.1.3.4 Verification of Purchased Product**

##### **7.1.3.4.1 Verification at Subcontractor's Premises**

Where QSS proposes to verify the purchased product at the subcontractor's premises, QSS shall specify verification arrangements and the method of product release in the purchasing documents.

##### **7.1.3.4.2 Customer Verification of Subcontracted Product**

Where specified in the Task Order or requested by the CO/COTR, the MEDS CO or COTR's representative shall be afforded the right to verify at the subcontractor's premises or at the Team premises that the subcontracted product



conforms to specified requirements. Such verification shall not be used by QSS as evidence of effective control of quality by the subcontractor.

#### **7.1.4 CONTROL OF GFE/GFI EQUIPMENT**

QSS shall establish and maintain documented procedures for the control of verification, storage, and maintenance of Government-supplied items provided for incorporation into the supplies or for related MEDS activities.

All Government-supplied material or products shall be verified, stored, and maintained in the same manner as purchased product and materials. The same procedures or work instructions used for performing receiving inspection and test of purchased products or material shall apply to Government-supplied products and material.

The control of Government-supplied products shall be in accordance with the appropriate Level II operating procedure for QSS-supplied products. Any such product that is lost, damaged, or is otherwise unsuitable for use shall be recorded and reported to the Government.

#### **7.1.5 PRODUCT IDENTIFICATION AND TRACEABILITY**

Product identification and traceability shall be a standard process for flight and critical Ground Support Equipment (GSE) hardware. It shall be implemented (when required by a task) through Level II operating procedures.

A product that is designed and developed by QSS shall be identified by a unique part number and, where applicable, serial number and revision designation. This system for assignment of part numbers and serial numbers shall be in accordance with the QSS Level II operating procedures.

A product submitted for various stages of inspection shall be inspected using current issue drawings as verified with the Configuration Management database. At those inspections, part markings, serial numbers and revision levels shall be verified, among other attributes.

##### **7.1.5.1 Government-Supplied and Off-the-Shelf Parts/Materials Identification**

Government-supplied products and off-the-shelf parts/materials shall be identified in accordance with the related procedure.

##### **7.1.5.2 Product Traceability**

Parts traceability is applicable to manufactured and procured parts including EEE parts utilized within space-flight end-items and selected ground support

applications when specified contractually. The traceability application is in accordance with the EEE Traceability System procedure.

### **7.1.5.3 Materials Traceability**

#### **7.1.5.3.1 Raw Materials Traceability**

Material traceability for raw materials procured for space flight application shall be in accordance with the Level II procedures.

#### **7.1.5.3.2 Age Sensitive Materials**

Material traceability for materials, which are age-sensitive and used during manufacturing fabrication and test of hardware, shall be in accordance with the appropriate Level II operating procedures.

### **7.1.6 PROCESS CONTROLS**

QSS shall identify and plan the production, installation, and servicing processes, which directly affect quality and shall ensure that these processes are carried out under controlled conditions. Controlled conditions shall include the following:

- a. Documented procedures defining the manner of production, installation, and servicing, where the absence of such procedures could adversely affect quality;
- b. Use of suitable production, installation, and servicing equipment, and a suitable working environment;
- c. Compliance with reference standards/codes, quality plans, and/or documented procedures;
- d. Monitoring and control of suitable process parameters and product characteristics;
- e. The approval of processes and equipment, as appropriate;
- f. Criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples, or illustrations);
- g. Suitable maintenance of equipment to ensure continuing process capability.

Where the results of processes cannot be fully verified by subsequent inspection and testing of the product and where, for example, processing deficiencies may become apparent only after the product is in use, the processes shall be carried

out by qualified/certified operators and/or shall require continuous monitoring and control of process parameters to ensure that the specified requirements are met. The requirements for any qualification of process operations, including associated equipment and personnel, shall be specified.

## **7.1.7 INSPECTION AND TESTING**

### **7.1.7.1 General**

QSS shall establish and maintain documented procedures for inspection and testing activities in order to verify that the specified requirements for the product are met. The required inspection and testing, and the records to be established, shall be detailed in the quality plan or documented procedures for the specific Task Order.

### **7.1.7.2 Receiving Inspection and Testing**

Incoming inspection shall be performed under the direction of Performance Assurance by receiving inspection personnel. Inspections shall be performed in accordance with the appropriate Level II operating procedure.

### **7.1.7.3 Emergency Release**

Parts or materials released for urgent delivery or production use that has not had complete inspection or processing shall be clearly identified. Identification shall be per the direction of Product Assurance. A Universal Discrepancy Report (UDR) shall be generated by inspection personnel and dispositioned by Product Assurance prior to release of parts or materials. The UDR shall be attached to the respective product documentation. Delivery of identified discrepant products will require the approval of the COTR or authorized representative.

### **7.1.7.4 Incoming Inspection-Defective and Discrepant Parts/Materials**

Defective/discrepant parts/materials shall be processed in accordance with the appropriate Level II operating procedure. Defective and discrepant parts/materials shall be segregated from acceptable parts/materials either by physical separation or identification, as necessary due to size or other characteristics.

### **7.1.7.5 In-Process Inspection**

Performance assurance shall inspect products in accordance with the In-Process Inspection procedure and Mandatory Inspection Points (MIPs) established by the appropriate Work Authorization Document. The Work Authorization Document shall reflect inspection criteria in accordance with the contractual requirement.

#### **7.1.7.6 In-Process and Final Testing**

Testing, both in-process and final, of products shall be in accordance with released and approved test procedures or approved work authorization. No products shall be tested unless it has successfully passed all previous inspections and pretest requirements, except when authorized by Performance Assurance in writing.

Test anomalies shall be processed in accordance with the appropriate Level II operating procedures.

Performance Assurance personnel shall perform In-Process and Final Test Surveillance responsibilities in accordance with the appropriate Level II operating procedures, or as otherwise required by documented and authorized Government request.

#### **7.1.7.7 Integration and System Test**

When applicable, integration and system test shall be performed in accordance with released and approved integration and system test procedures. No product shall be integrated or system tested unless it has passed all previous inspections and tests, and has met all pre-integration test requirements, except when authorized by Performance Assurance.

Integration and system test anomalies shall be processed in accordance with the appropriate Level II operating procedure.

Performance Assurance personnel shall perform integration and system test surveillance in accordance with the appropriate Level II operating procedure.

#### **7.1.7.8 Final Inspection**

Final inspection shall be performed by Performance Assurance personnel in accordance with the appropriate inspection operating procedure.

#### **7.1.7.9 Inspection and Test Records**

Records that provide evidence of the tests and inspections performed are documented and shall clearly identify the pass/fail criteria. All test and inspection results shall be retained as quality records.

## **7.1.8 CONTROL OF MEASUREMENT AND TEST EQUIPMENT**

### **7.1.8.1 Measuring and Inspection Equipment**

All calibration of measuring and inspection equipment shall be performed under the appropriate Level II procedure.

#### **7.1.8.1.1 Test Equipment**

All activities associated with the fabrication, certification, handling and use of test equipment shall be in accordance with the appropriate Level II operating procedure. All test equipment shall be fully documented per the requirements of the operating procedure.

#### **7.1.8.1.2 Recall**

During the calibration of measuring and inspection equipment, the Calibration Laboratory shall notify the Performance Assurance Manager when it is determined that an out-of-tolerance condition exists. Notification shall be in accordance with the calibration procedure.

Out-of-tolerance conditions found in test equipment during use or certifications shall be documented in accordance with the appropriate Level II operating procedure. This system provides for positive corrective and recall actions in accordance with the Failure Review Board (FRB) direction.

## **7.1.9 INSPECTION AND TEST STATUS**

Work orders or approved documents for all inspected and tested products shall be signed or stamped appropriately to indicate "accept" and "reject" status. All inspection and test stamps are controlled by Performance Assurance. Stamps are issued to Performance Assurance, Test, and Inspection personnel as required. Inspection and test status is identified in accordance with the appropriate Level II operating procedure.

Control of emergency release parts and materials is covered under section 7.1.7.3 of this Quality Manual.

Records that provide evidence of the tests and inspections performed are documented and shall clearly identify the pass/fail criteria. All test and inspection results shall be retained as quality records.

### **7.1.10 CONTROL OF NONCONFORMING PRODUCT**

Products or materials that do not conform to specified requirements shall be controlled to prevent unintended use. These controls include:

- a. Product/material identification via tags, UDR, or required document.
- b. Documenting specific details of the nonconformance on designated tags, UDR, or required document.
- c. Nonconforming product/materials segregated and held in identified and controlled areas.
- d. Formal nonconforming material review and disposition (MRB)

The QA Instructions (QAIs) referenced herein (or other contractual requirement defined by the customer) that govern nonconforming products assure that such product cannot be further processed or shipped without proper authorization.

#### **7.1.10.1 Discrepancies**

Nonconformities, which are commonly referred to as those which can be reworked to print, are considered discrepancies. Discrepancies shall be identified, reviewed, dispositioned, and reworked as required in accordance with the Universal Discrepancy Reporting (UDR) procedure. The defect codes used in association with the Universal Discrepancy Report may be used for trend analysis.

#### **7.1.10.2 Material Review System (MRS)**

Discrepancies which cannot be reworked to print by standard practices, or nonconformances, of which it is apparent that nonstandard rework or repair is required, are processed in accordance with the appropriate Level II operating procedure. The Materials Review System requires review of trend data and provides for positive corrective action.

#### **7.1.10.3 Anomaly Reporting System**

Upon the first application of power after receiving inspection, or the first mechanical actuation, all anomalies are documented in accordance with the appropriate Level II operating procedure. This system provides data for trend analysis and provides for positive corrective action.

## **7.1.11 CORRECTIVE AND PREVENTIVE ACTION**

QSS shall maintain a documented, closed-loop corrective and preventive action system that applies to discrepancies in purchased material and products, as well as internally manufactured material and products. Included, are test and inspection issues, design concerns, and customer queries.

### **7.1.11.1 Supplier Corrective Action**

Supplier corrective action shall be initiated when determined necessary for purchase of nonconforming material or product. In addition, supplier performance shall be monitored. Downward trends in quality or delivery performance may require a corrective action plan to keep the supplier as an approved source.

### **7.1.11.2 Internal Corrective Action**

Internal manufacturing discrepancies and nonconformities shall be investigated to determine root cause. Corrective action shall be taken, and preventive measures initiated, as required. These same corrective and preventive action procedures shall be followed for any identified engineering (design)-related issues.

### **7.1.11.3 Corrective Action Follow-Up**

Actions taken to correct and prevent nonconformance shall be tracked by Performance Assurance. The measurement of specific action effectiveness is an integral part of the quality system. The status of actions requested shall be reviewed by management periodically to ensure suitability and effectiveness.

### **7.1.11.4 Customer-Requested Corrective Action**

Any written or oral expression of dissatisfaction by the CO/COTR related to the identity, quality, reliability, safety, or performance of any product or service offered by QSS shall be subject to investigation for root cause and corrective action as determined by Performance Assurance.

## **7.1.12 HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY**

The specific handling, storage, packaging, preservation and delivery of materials and product shall be provided by the appropriate Quality Assurance Instruction. These instructions identify the practices and methods used from receipt of material and product through all stages of stocking, fabrication, assembly, test, and delivery.

#### **7.1.12.1 Product Storage**

Designated storage areas are provided for received material and product, work in-process and finished product. Movement of materials into and out of material storage areas shall be controlled. Items in storage shall be checked for any deterioration or indication of improper handling during regular cycle counts and internal quality system audits.

#### **7.1.12.2 Finished Product**

Finished products are packaged in a manner to prevent physical damage and to maintain the quality of the product to its specified destination. Packaging and marking of flight equipment shall conform to the requirements in Section 8.1.1.

### **7.1.13 CONTROL OF QUALITY RECORDS**

Quality records shall be maintained to demonstrate conformance to specified requirements and the effective operation of the quality system. All quality records, regardless of media format (electronic and paper), shall be retrievable and legible. Records shall be stored in a suitable environment to prevent damage and deterioration. Record storage areas shall provide readily retrievable access to authorized personnel.

#### **7.1.13.1 Retention Schedule of Quality Records**

The period of record retention (including disposition instructions) are clearly defined in the applicable Level II operating procedure.

The retention schedule of quality records shall be established per task requirements or contractual requirements.

### **7.1.14 INTERNAL QUALITY AUDITS**

Internal quality system audits shall be performed to a structured and a documented Level II operating procedure. Each process is audited on a predetermined schedule. In addition, supplemental (special) audits may be scheduled based on customer complaints, correction action requests, and preventive action requests from management reviews.

#### **7.1.14.1 Perform Audits**

Internal audits are conducted in accordance with the appropriate Level II operating procedure by qualified QSS personnel. Auditors are not allowed to audit their own areas of responsibility. Training of QSS auditing personnel shall be in accordance with the training procedure.



#### **7.1.14.2 Audit Results**

The results of all internal quality audits shall be reviewed with the individuals responsible for the area being audited. In addition, an observation of a discrepancy may initiate a corrective or preventive action request. Procedures shall be in place to verify that all actions taken were implemented in a timely manner and that the expected results were obtained.

#### **7.1.15 TRAINING**

QSS shall maintain a documented Level II operating procedure for employee qualification, training, evaluations, and periodic reviews. The system shall include two categories of training. Category I involves formal training in defined skills; Category II involves informal training for OJT acquired skills. Those personnel meeting the requirements of Category I are recertified through instruction and test at specific intervals of time. For Category II, personnel are considered certified for as long as they display an expected proficiency in that skill.

Employee training needs are identified and certified on the basis of education, training, and previous work experience.

#### **7.1.16 SERVICING**

The QSS Performance Assurance Representative shall maintain a documented Level II operating procedure for handling customer inquiries, customer problem resolution, product returns, and product upgrades. Field installation, field service, and product support training procedures will be generated on a case-by-case basis when required by the contract.

Reports of all customer service activities are identified in the Level II operating procedure and are maintained as quality records, as required.

#### **7.1.17 STATISTICAL PROCESS CONTROLS TECHNIQUES**

QSS shall utilize statistical techniques and practices to evaluate quality data and its impact on product quality. Documented Level II operating procedures define the areas and types of quality data to be gathered, analyzed, and reported. Adverse or negative trends identified through these techniques shall be discussed during the management reviews. When these trends in quality data are identified, corrective action shall be implemented where applicable.

Statistical process control (SPC) techniques shall be used, where applicable and cost effective, to provide evidence of control and provide continuous improvement opportunities in the manufacturing cycle.

## 7.2 LEVEL II

The Level II operating procedures are presented in Table 1, which also presents the related Level I requirement and the corresponding ISO 9001 quality system requirement.

<b>Doc. #</b>	<b>Procedure</b>	<b>Level I Requirement</b>	<b>ANSI 9001 Requirement</b>
1	STD-GEN-011, Design Control Guidelines	7.1.1	4.4
2	QAI-4.1, Design Review Support	7.1.1	4.4
3	STD-GEN-008, Configuration and Data Management (C/DM) Manual	7.1.2	4.5
4	QAI-4.2, Engineering Drawing Review	7.1.2	4.5
5	QAI-4.3, Specification/Technical Document	7.1.2	4.5
6	STD-GEN-012, Purchasing	7.1.3	4.6
7	QAI-5.1, Purchase Request Coding and Purchase Order Review	7.1.3	4.6
8	QAI-5.2, Supplier Surveillance Program	7.1.3	4.6
9	QAI-5.4, Supplier Approval and Vendor Rating	7.1.3	4.6
10	QAI-5.5, Inspection Codes Assignment	7.1.3	4.6
11	QAI-5.6, Supplier or Subcontractor Quality Survey Request	7.1.3	4.6
12	QAI-12.1, Government-Furnished Property Customer Controls	7.1.4	4.7
13	QAI-6.9, EEE Traceability System	7.1.5	4.8
14	QAI-6.13, Control of Age Sensitive Material	7.1.5	4.8
15	QAI-6.8, Logbook Controls	7.1.5, 7.1.8	4.8, 4.11
16	QAI-6.11, Training/Special Skill Determination	7.1.6, 7.1.15	4.9, 4.18
17	QAI-9.1, Quality Program Audits	7.1.6	4.9
18	QAI-6.1, Receiving Inspection	7.1.7	4.10
19	QAI-4.4, Test Procedure Review	7.1.7	4.10
20	QAI-6.2, In-Process Inspection	7.1.7	4.10
21	QAI-5.3, Source Inspection	7.1.7	4.10
22	QAI-7.1, Component Test Verification	7.1.7	4.10
23	QAI-6.3, Final/End Item Inspection	7.1.7	4.10
24	QAI-7.2, Integration and System Test Verification	7.1.7, 7.1.9	4.10, 4.12
25	STD-GEN-003, Receiving Inspection Plan	7.1.7	4.10
26	QAI-10.2, STE Verification	7.1.8	4.11
27	QAI-10.1, Metrology System	7.1.8	4.11
28	QAI-8.1, Universal Discrepancy Reporting	7.1.10	4.13
29	QAI-7.3, Test Deviation Log	7.1.10	4.13
30	QAI-8.2, Material Review System	7.1.10	4.13
31	QAI-8.3, Anomaly and Corrective Preventive Action Report System	7.1.11	4.14
32	QAI-8.4, Corrective Action System	7.1.11	4.14
33	QAI-7.4, Handling and Control of Flight Articles	7.1.12	4.15
34	QAI-14.0, Quality Records	7.1.13	4.16
35	QAI-9.1, Quality Program Audits	7.1.14	4.17
36	QAI-12.2, Servicing	7.1.16	4.19
37	QAI-13.0, Statistical Process Control	7.1.17	4.20
38	STD PS5561, Fluorescent Penetrant Inspection	6.1.2	N.A.

## **8.0 SYSTEMS SAFETY PLAN**

### **8.1 LEVEL I**

#### **8.1.1 Flight Equipment**

The approach and methodology implemented shall include the following:

- a. Development of safety plans
- b. Evaluations of hazards
- c. Review of procedures
- d. Completion of ELV and Shuttle Safety Data Packages
- e. Completion of end-item data package
- f. Packaging and marking of all hardware deliverables in accordance with NASA Handbook (NHB) 6000.1D, Requirements for Packaging, Handling, Transportation, and/or MIL-STD-2073-1 and MIL-STD-2073-2, as applicable.
- g. Packaging of hazardous material items in accordance with paragraph 204 of NHB 6000.1D.
- h. Packaging, handling, and transportation records in accordance with paragraph 302 of NHB 6000.1D.
- i. Space flight items marked in blue color.
- j. All shipping containers, shipping documents, and purchasing documents for items in 8.1.1.i marked "ITEMS FOR SPACE FLIGHT USE."
- k. A NASA Critical Space Item Label prominently displayed on the exterior of all Class I, Class II, and Class III interim packages and exterior shipping containers to alert all shipping and handling personnel to the criticality of the item in accordance with paragraph 303 of NHB 6000.1D.
- l. The requirements in Section 8.1.1 i, j, and k placed on all subcontracts for hardware items.

#### **8.1.2 Ground Support Equipment**

- a. Development of safety plans
- b. Evaluations of hazards
- c. Review of procedures

## **8.2 LEVEL II**

### **8.2.1 Flight Equipment**

The analyses shall cover the following elements of the Flight System:

- a. The spacecraft
- b. The spacecraft instruments
- c. The Shuttle payload
- d. Pyrotechnic systems
- e. Contamination control systems

The following analyses shall be conducted:

- a. Integration and test program for system reliability
- b. Launch environment hazard analysis
- c. Operating system hazard analysis
- d. Pyrotechnic handling hazard analysis
- e. Sneak circuit analysis
- f. Contamination control

### **8.2.2 Ground Support Equipment**

The analyses shall cover the following elements of the Ground support system:

- a. Flight-item shipping and packaging
- b. Cryogenic handling equipment
- c. Propulsion fluid handling equipment
- d. Pneumatic handling and pressurizing equipment
- e. Contamination control systems
- f. Flight-system handling equipment
- g. Operating procedures
- h. Launch support human safety

NAS5-99124  
Attachment G

## **ATTACHMENT G**

### **WAGE DETERMINATION NO. 94-2104 REV. 10**

**(JULY 1, 1997)**

REGISTER OF WAGE DETERMINATIONS UNDER:  
THE SERVICE CONTRACT ACT

By direction of the Secretary of Labor

*William M. Gross*  
William M. Gross, Division of  
Wage Determinations

U.S. DEPARTMENT OF LABOR  
EMPLOYMENT STANDARDS ADMINISTRATION  
WAGE AND HOUR DIVISION  
WASHINGTON, D.C. 20210

Wage Determination No.: 94-2104

Revision No.: 10

Date of Last Revision: 07/01/1997

State(s): Dist. of Col., Maryland, Virginia

Area: MARYLAND COUNTIES OF CALVERT, CHARLES, FREDERICK, MONTGOMERY,  
PRINCE GEORGE'S, ST MARY'S.  
VIRGINIA COUNTIES OF ALEXANDRIA, ARLINGTON, FAIRFAX, FALLS CHURCH,  
FAUQUIER, KING GEORGE, LOUDOUN, PRINCE WILLIAM, STAFFORD.

\*\* Fringe Benefits Required For All Occupations Included In  
This Wage Determination Follow The Occupational Listing \*\*

OCCUPATION CODE AND TITLE

MINIMUM HOURLY WAGE

ADMINISTRATIVE SUPPORT AND CLERICAL:

01011 Accounting Clerk I	\$ 8.79
01012 Accounting Clerk II	\$ 10.28
01013 Accounting Clerk III	\$ 12.15
01014 Accounting Clerk IV	\$ 14.16
01030 Court Reporter	\$ 13.22
01050 Dispatcher, Motor Vehicle	\$ 13.85
01060 Document Preparation Clerk	\$ 10.25
01070 Messenger (Courier)	\$ 9.67
01090 Duplicating Machine Operator	\$ 10.25
01110 Film/Tape Librarian	\$ 12.88
01115 General Clerk I	\$ 7.62
01116 General Clerk II	\$ 9.17
01117 General Clerk III	\$ 10.23
01118 General Clerk IV	\$ 14.31
01120 Housing Referral Assistant	\$ 14.82
01131 Key Entry Operator I	\$ 10.05
01132 Key Entry Operator II	\$ 11.23
01191 Order Clerk I	\$ 11.26
01192 Order Clerk II	\$ 12.44
01261 Personnel Assistant (Employment) I	\$ 10.33
01262 Personnel Assistant (Employment) II	\$ 11.28
01263 Personnel Assistant (Employment) III	\$ 13.00
01264 Personnel Assistant (Employment) IV	\$ 15.50
01270 Production Control Clerk	\$ 14.82
01290 Rental Clerk	\$ 12.08
01300 Scheduler, Maintenance	\$ 12.08
01311 Secretary I	\$ 12.08
01312 Secretary II	\$ 13.22
01313 Secretary III	\$ 14.82
01314 Secretary IV	\$ 16.86
01315 Secretary V	\$ 18.96
01320 Service Order Dispatcher	\$ 12.08
01341 Stenographer I	\$ 13.26
01342 Stenographer II	\$ 14.87
01400 Supply Technician	\$ 16.86

01420 Survey Worker(Interviewer)	\$ 13.22
01460 Switchboard Operator- Receptionist	\$ 10.28
01510 Test Examiner	\$ 13.22
01520 Test Proctor	\$ 13.22
01531 Travel Clerk I	\$ 7.98
01532 Travel Clerk II	\$ 8.60
01533 Travel Clerk III	\$ 9.26
01611 Word Processor I	\$ 10.48
01612 Word Processor II	\$ 12.05
01613 Word Processor III	\$ 14.95

**AUTOMATIC DATA PROCESSING:**

03010 Computer Data Librarian	\$ 9.97
03041 Computer Operator I	\$ 10.23
03042 Computer Operator II	\$ 12.06
03043 Computer Operator III	\$ 14.62
03044 Computer Operator IV	\$ 16.53
03045 Computer Operator V	\$ 17.79
03071 Computer Programmer I 1/	\$ 14.46
03072 Computer Programmer II 1/	\$ 16.97
03073 Computer Programmer III 1/	\$ 19.87
03074 Computer Programmer IV 1/	\$ 23.04
03101 Computer Systems Analyst I 1/	\$ 17.93
03102 Computer Systems Analyst II 1/	\$ 23.32
03103 Computer Systems Analyst III 1/	\$ 27.12
03160 Peripheral Equipment Operator	\$ 9.97

**AUTOMOTIVE SERVICE:**

05005 Automobile Body Repairer, Fiberglass	\$ 18.39
05010 Automotive Glass Installer	\$ 16.45
05040 Automotive Worker	\$ 16.45
05070 Electrician, Automotive	\$ 17.44
05100 Mobile Equipment Servicer	\$ 14.43
05130 Motor Equipment Metal Mechanic	\$ 18.39
05160 Motor Equipment Metal Worker	\$ 16.45
05190 Motor Vehicle Mechanic	\$ 18.46
05220 Motor Vehicle Mechanic Helper	\$ 13.38
05250 Motor Vehicle Upholstery Worker	\$ 15.47
05280 Motor Vehicle Wrecker	\$ 16.45
05310 Painter, Automotive	\$ 17.44
05340 Radiator Repair Specialist	\$ 16.45
05170 Tire Repairer	\$ 14.43
05400 Transmission Repair Specialist	\$ 18.39

**FOOD PREPARATION AND SERVICE:**

07010 Baker	\$ 11.47
07041 Cook I	\$ 10.06
07042 Cook II	\$ 11.47
07070 Dishwasher	\$ 7.23
07100 Food Service Worker (Cafeteria Worker)	\$ 7.23
07130 Meat Cutter	\$ 11.47
07250 Waiter/Waitress	\$ 7.89

**FURNITURE MAINTENANCE AND REPAIR:**

09010 Electrostatic Spray Painter	\$ 17.44
09040 Furniture Handler	\$ 12.13

09070 Furniture Refinisher	\$ 17.44
09100 Furniture Refinisher Helper	\$ 13.38
09110 Furniture Repairer, Minor	\$ 15.47
09130 Upholsterer	\$ 17.44

## GENERAL SERVICES AND SUPPORT:

11030 Cleaner, Vehicles	\$ 7.23
11060 Elevator Operator	\$ 7.23
11090 Gardener	\$ 10.06
11121 Housekeeping Aide I	\$ 6.44
11122 Housekeeping Aide II	\$ 7.26
11150 Janitor	\$ 7.23
11210 Laborer, Grounds Maintenance	\$ 7.89
11240 Maid or Houseman	\$ 6.39
11270 Pest Controller	\$ 10.79
11300 Refuse Collector	\$ 7.23
11310 Tractor Operator	\$ 9.33
11360 Window Cleaner	\$ 7.89

## HEALTH:

12020 Dental Assistant	\$ 9.73
12040 Emergency Medical Technician/ Paramedic Ambulance Driver	\$ 10.42
12071 Licensed Practical Nurse I	\$ 12.69
12072 Licensed Practical Nurse II	\$ 14.25
12073 Licensed Practical Nurse III	\$ 15.95
12100 Medical Assistant	\$ 8.69
12130 Medical Laboratory Technician	\$ 8.69
12160 Medical Record Clerk	\$ 8.69
12190 Medical Record Technician	\$ 12.05
12221 Nursing Assistant I	\$ 7.28
12222 Nursing Assistant II	\$ 8.18
12223 Nursing Assistant III	\$ 10.48
12224 Nursing Assistant IV	\$ 11.77
12250 Pharmacy Technician	\$ 10.84
12280 Phlebotomist	\$ 8.69
12311 Registered Nurse I	\$ 15.88
12312 Registered Nurse II	\$ 17.80
12313 Registered Nurse II, Specialist	\$ 19.65
12314 Registered Nurse III	\$ 21.55
12315 Registered Nurse III, Anesthetist	\$ 21.55
12316 Registered Nurse IV	\$ 25.83

## INFORMATION AND ARTS:

13002 Audiovisual Librarian	\$ 16.86
13011 Exhibits Specialist I	\$ 15.11
13012 Exhibits Specialist II	\$ 18.90
13013 Exhibits Specialist III	\$ 23.27
13041 Illustrator I	\$ 15.11
13042 Illustrator II	\$ 18.90
13043 Illustrator III	\$ 23.27
13047 Librarian	\$ 18.96
13050 Library Technician	\$ 13.22
13071 Photographer I	\$ 13.46
13072 Photographer II	\$ 15.11
13073 Photographer III	\$ 18.90
13074 Photographer IV	\$ 23.27
13075 Photographer V	\$ 25.60



**LAUNDRY, DRY CLEANING, PRESSING:**

15010 Assembler	\$ 6.01
15030 Counter Attendant	\$ 6.01
15040 Dry Cleaner	\$ 7.77
15070 Finisher, Flatwork, Machine	\$ 6.01
15090 Presser, Hand	\$ 6.01
15100 Presser, Machine, Dry Cleaning	\$ 6.01
15130 Presser, Machine, Shirts	\$ 6.01
15160 Presser, Machine, Wearing Apparel, Laundry	\$ 6.01
15190 Sewing Machine Operator	\$ 8.39
15220 Tailor	\$ 8.99
15250 Washer, Machine	\$ 6.60

**MACHINE TOOL OPERATION AND REPAIR:**

19010 Machine-tool Operator (Toolroom)	\$ 17.44
19040 Tool and Die Maker	\$ 21.24

**MATERIALS HANDLING AND PACKING:**

21010 Fuel Distribution System Operator	\$ 14.80
21020 Material Coordinator	\$ 14.64
21030 Material Expediter	\$ 14.64
21040 Material Handling Laborer	\$ 10.01
21050 Order Filler	\$ 12.76
21071 Forklift Operator	\$ 10.93
21080 Production Line Worker (Food Processing)	\$ 11.25
21100 Shipping/Receiving Clerk	\$ 11.78
21130 Shipping Packer	\$ 10.99
21140 Store Worker I	\$ 8.61
21150 Stock Clerk ( Shelf Stocker; Store Worker II )	\$ 10.50
21210 Tools and Parts Attendant	\$ 12.73
21400 Warehouse Specialist	\$ 11.25

**MECHANICS AND MAINTENANCE AND REPAIR:**

23010 Aircraft Mechanic	\$ 18.39
23040 Aircraft Mechanic Helper	\$ 13.38
23050 Aircraft Quality Control Inspector	\$ 19.37
23060 Aircraft Servicer	\$ 15.47
23070 Aircraft Worker	\$ 16.45
23100 Appliance Mechanic	\$ 17.44
23120 Bicycle Repairer	\$ 14.43
23125 Cable Splicer	\$ 18.39
23130 Carpenter, Maintenance	\$ 17.44
23140 Carpet Layer	\$ 16.85
23160 Electrician, Maintenance	\$ 17.93
23181 Electronics Technician, Maintenance I	\$ 15.51
23182 Electronics Technician, Maintenance II	\$ 19.80
23183 Electronics Technician, Maintenance III	\$ 21.56
23260 Fabric Worker	\$ 15.23
23290 Fire Alarm System Mechanic	\$ 18.39
23310 Fire Extinguisher Repairer	\$ 14.43

23340 Fuel Distribution System Mechanic	\$ 18.39
23370 General Maintenance Worker	\$ 15.90
23400 Heating, Refrigeration and Air Conditioning Mechanic	\$ 18.39
23430 Heavy Equipment Mechanic	\$ 18.39
23440 Heavy Equipment Operator	\$ 18.66
23460 Instrument Mechanic	\$ 18.39
23470 Laborer	\$ 9.71
23500 Locksmith	\$ 17.44
23530 Machinery Maintenance Mechanic	\$ 19.82
23550 Machinist, Maintenance	\$ 20.79
23580 Maintenance Trades Helper	\$ 13.38
23640 Millwright	\$ 18.39
23700 Office Appliance Repairer	\$ 17.44
23740 Painter, Aircraft	\$ 17.44
23760 Painter, Maintenance	\$ 17.44
23790 Pipefitter, Maintenance	\$ 17.77
23800 Plumber, Maintenance	\$ 17.44
23820 Pseudraulic Systems Mechanic	\$ 18.39
23850 Rigger	\$ 18.39
23870 Scale Mechanic	\$ 16.45
23890 Sheet-metal Worker, Maintenance	\$ 18.39
23910 Small Engine Mechanic	\$ 19.37
23930 Telecommunications Mechanic I	\$ 18.39
23931 Telecommunications Mechanic II	\$ 19.37
23950 Telephone Lineman	\$ 18.39
23960 Welder, Combination, Maintenance	\$ 18.39
23965 Well Driller	\$ 18.39
23970 Woodcraft Worker	\$ 18.39
23980 Woodworker	\$ 14.80

## PERSONAL NEEDS:

24570 Child Care Attendant	\$ 8.69
24580 Child Care Center Clerk	\$ 10.54
24600 Chore Aide	\$ 6.39
24630 Homemaker	\$ 12.05

## PLANT AND SYSTEM OPERATION:

25010 Boiler Tender	\$ 18.39
25040 Sewage Plant Operator	\$ 17.44
25070 Stationary Engineer	\$ 18.39
25190 Ventilation Equipment Tender	\$ 13.38
25210 Water Treatment Plant Operator	\$ 17.44

## PROTECTIVE SERVICE:

27004 Alarm Monitor	\$ 11.20
27006 Corrections Officer	\$ 14.90
27010 Court Security Officer	\$ 15.76
27040 Detention Officer	\$ 15.76
27070 Firefighter	\$ 14.65
27101 Guard I	\$ 8.50
27102 Guard II	\$ 11.20
27130 Police Officer	\$ 17.54

## STEVEDORING/LONGSHOREMEN SERVICE OCCUPATIONS:

28010 Blocker and Bracer	\$ 13.83
28020 Hatch Tender	\$ 13.83

28010 Line Handler	\$ 13.83
28040 Stevedore I	\$ 13.00
28050 Stevedore II	\$ 14.66

## TECHNICAL:

29010 Air Traffic Control 2/ Specialist, Center	\$ 23.19
29011 Air Traffic Control 2/ Specialist, Station	\$ 15.99
29012 Air Traffic Control 2/ Specialist, Terminal	\$ 17.61
29023 Archeological Technician I	\$ 13.63
29024 Archeological Technician II	\$ 15.25
29025 Archeological Technician III	\$ 18.90
29030 Cartographic Technician	\$ 18.90
29035 Computer Based Training Specialist/Instructor	\$ 17.93
29040 Civil Engineering Technician	\$ 18.90
29061 Drafter I	\$ 10.75
29062 Drafter II	\$ 13.46
29063 Drafter III	\$ 15.11
29064 Drafter IV	\$ 18.90
29081 Engineering Technician I	\$ 11.55
29082 Engineering Technician II	\$ 13.40
29083 Engineering Technician III	\$ 16.10
29084 Engineering Technician IV	\$ 18.48
29085 Engineering Technician V	\$ 22.60
29086 Engineering Technician VI	\$ 27.35
29090 Environmental Technician	\$ 18.27
29100 Flight Simulator/Instructor (Pilot)	\$ 23.32
29150 Graphic Artist	\$ 17.93
29160 Instructor	\$ 18.40
29210 Laboratory Technician	\$ 14.62
29240 Mathematical Technician	\$ 18.48
29361 Paralegal/Legal Assistant I	\$ 13.22
29362 Paralegal/Legal Assistant II	\$ 16.86
29363 Paralegal/Legal Assistant III	\$ 20.62
29364 Paralegal/Legal Assistant IV	\$ 24.55
29390 Photooptics Technician	\$ 18.48
29480 Technical Writer	\$ 16.72
29491 Unexploded Ordnance Technician I	\$ 14.74
29492 Unexploded Ordnance Technician II	\$ 17.83
29493 Unexploded Ordnance Technician III	\$ 21.37
29494 Unexploded Safety Escort	\$ 14.74
29495 Unexploded Sweep Personnel	\$ 14.74
29620 Weather Observer, Senior 3/	\$ 17.02
29621 Weather Observer, Combined 3/ Upper Air and Surface Programs	\$ 14.62
29622 Weather Observer, Upper Air 3/	\$ 14.62

TRANSPORTATION/MOBILE EQUIPMENT  
OPERATION:

31030 Bus Driver	\$ 13.24
31250 Parking and Lot Attendant	\$ 7.50
31290 Shuttle Bus Driver	\$ 10.42
31300 Taxi Driver	\$ 9.67
31361 Truckdriver, Light Truck	\$ 10.42
31362 Truckdriver, Medium Truck	\$ 13.24

31163 Truckdriver, Heavy Truck	\$ 15.54
36164 Truckdriver, Tractor-Trailer	\$ 16.93

**MISCELLANEOUS:**

99020 Animal Caretaker	\$ 8.61
99030 Cashier	\$ 6.51
99041 Carnival Equipment Operator	\$ 9.33
99042 Carnival Equipment Repairer	\$ 10.06
99043 Carnival Worker	\$ 7.23
99050 Desk Clerk	\$ 9.45
99095 Embalmer	\$ 18.40
99300 Lifeguard	\$ 6.89
99310 Mortician	\$ 18.40
99350 Park Attendant (Aide)	\$ 8.48
99400 Photofinishing Worker ( Photo Lab / Dark Room Technician )	\$ 7.58
99500 Recreation Specialist	\$ 15.40
99510 Recycling Worker	\$ 9.33
99610 Sales Clerk	\$ 6.75
99620 School Crossing Guard (Cross- walk Attendant)	\$ 7.23
99630 Sports Official	\$ 6.75
99658 Survey Party Chief	\$ 10.93
99659 Surveying Technician	\$ 9.42
99660 Surveying Aide	\$ 6.16
99690 Swimming Pool Operator	\$ 11.47
99720 Vending Machine Attendant	\$ 9.33
99730 Vending Machine Repairer	\$ 11.47
99740 Vending Machine Repairer Helper	\$ 9.33

**\*\* Fringe Benefits Required For All Occupations Included In  
This Wage Determination \*\***

**HEALTH & WELFARE:** Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an average of \$2.56 per hour computed on the basis of all hours worked by service employees employed on the contract.

**VACATION:** Two weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years; 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractor in the performance of similar work at the same Federal facility. (Reg. 4.173)

**HOLIDAYS:** Minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

1/

Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in

29 CFR 541. (See 29 CFR 4.156)

2/

APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3/

APPLICABLE TO WEATHER OBSERVERS ONLY - NIGHT PAY & SUNDAY PAY: If you work at night as a part of a regular tour of duty, you will earn a NIGHT DIFFERENTIAL and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employee (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

**\*\* UNIFORM ALLOWANCE \*\***

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$4.25 per week (or \$.85 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

**\*\* NOTES APPLYING TO THIS WAGE DETERMINATION \*\***

**Source of Occupational Titles and Descriptions:**

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Second Supplement, dated August 1995, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job

descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE  
(Standard Form 1444 (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. (See Section 4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

- 1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).
- 2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.
- 3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).
- 4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.
- 5) The contracting officer transmits the Wage and Hour decision to the contractor.
- 6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act

Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

NAS5-99124  
Attachment H

## **ATTACHMENT H**

### **GOVERNMENT COMPARABLE RATES**

**(RESERVED)**



NAS5-99124  
Attachment I

## **ATTACHMENT I**

### **DIRECT LABOR RATES, INDIRECT COSTS, AND TASK FEE MATRICES**

**(SEPTEMBER 2, 1998)**

NAS5-99124  
Attachment I

## **ATTACHMENT I**

### **DIRECT LABOR RATES, INDIRECT COSTS, AND TASK FEE MATRICES**

**NAS5-99124**

**CONTAINS  
COMPANY-SPECIFIC,  
PROPRIETARY FINANCIAL DATA**

**SEE CONTRACTING OFFICER FOR COPY**

**(SEPTEMBER 2, 1998)**

NAS5-99124  
Attachment I

## **ATTACHMENT I**

### **DIRECT LABOR RATES, INDIRECT COSTS, AND TASK FEE MATRICES**

**PROPRIETARY DATA --  
SEE CONTRACTING OFFICER FOR COPY**

**(SEPTEMBER 2, 1998)**

**Attachment I**  
**Direct Labor Rate Matrix for SOW**  
**and Representative Task Orders**

QSS Group, Inc.  
September 2, 1998

No.	Labor Categories	Education + Experience	Non-Exempt Position	CFY 1 Hourly Rate	CFY 2 Hourly Rate	CFY 3 Hourly Rate	CFY 4 Hourly Rate	CFY 5 Hourly Rate	CFY 6 Hourly Rate
	<b>MANAGEMENT</b>								
1	Group Manager (Dis. Eng.)	BS+10		Provided By Team Member					
2	Group Manager (SW)	BS+10		Provided By Team Member					
3	Group Manager (Sys. Eng.)*	BS+10							
4	Performance Assurance Mgr*	BS+10							
5	Program Manager*	BS+15							
	<b>ADMINISTRATION</b>								
6	Administrative Assistant	HS+4	Yes						
7	Technical Typist	HS+0	Yes						
8	Documentation/Pres. Spec.	AA+3							
9	Resource Analyst	BA+2							
10	Business Manager	BS+7							
11	Coordinator/Scheduler	AA+2							
12	Technical Writer	BA+2	Yes						
	<b>SYSTEMS ENGINEERING</b>								
13	Ground Systems Engineer	BS+10							
14	Scientist	PhD+10							
15	Comm. Systems Engineer	BS+10							
16	Power System Engineer	BS+10							
17	Senior Staff Engineer	BS+15							
18	Systems Engineer	BS+5							
19	Systems Engineer, Sr.	BS+10							
	<b>DISCIPLINE ENGINEERING</b>								
20	GN&C Eng.	BS+10							
21	C&DH Eng.	BS+5							
22	Communications Engineer	BS+5							
23	Contamination Cntl Eng.	BS+5							
24	Controls Analyst	BS+5							
25	Cryogenics Eng.	BS+4							
26	Detector/Instrument Engineer	BS+10							
27	Electrical Engineer	BS+4							
28	Electrical Engineer, Jr.	BS+1							
29	Electrical Engineer, Sr.	BS+10							
30	EMI/EMC Eng.	BS+4							
31	Environmental Test Eng.	BS+5							
32	GSE Engineer	BS+3							
33	Integration and Test Eng.	BS+5							
34	Manufacturing Eng.	BS+5							
35	Mech. Eng.	BS+3							
36	Mech. Eng, Jr.	BS+1							
37	Mech. Eng, Sr.	BS+10							
38	Optical Analyst	BS+10							
39	Electro-Optics Engineer	BS+5							
40	Packaging Engineer	BS+3							
41	Propulsion Engineer	BS+5							
42	Radiation Engineer	BS+4							
43	Semiconductor Devel. Eng.	BS+10							
44	Thermal Engineer	BS+5							

**Attachment I**  
**Direct Labor Rate Matrix for SOW**  
**and Representative Task Orders**

QSS Group, Inc.  
September 2, 1998

No.	Labor Categories	Education + Experience	Non-Exempt Position	CFY 1 Hourly Rate	CFY 2 Hourly Rate	CFY 3 Hourly Rate	CFY 4 Hourly Rate	CFY 5 Hourly Rate	CFY 6 Hourly Rate
<b>45</b>	<b>TECHNICIANS</b>								
45	Contamination Cntl Tech.	HS+5	Yes						
46	Detector Technician	AA+5	Yes						
47	CAD/Draftsman	HS+5	Yes						
48	EEE Parts Anal. Tech.	AA+1	Yes						
49	Electrical Assembler	HS+5	Yes						
50	Electrical/Electronic Designer	HS+5	Yes						
51	Electrical/Electronic Technician	HS+5	Yes						
52	Electrical Technician, Jr.	HS+2	Yes						
53	Harness Designer	HS+5	Yes						
54	Junior Assembler	HS+1	Yes						
55	Machinist	HS+5	Yes						
56	Machinist, Sr.	HS+10	Yes						
57	Manufacturing Mngr	BS+10							
58	Material Technician	HS+3	Yes						
59	Mech. Designer	HS+5	Yes						
60	Mechanical Technician	HS+5	Yes						
61	Mech. Tech., Jr.	HS+2	Yes						
62	Optical Technician	AA+3	Yes						
63	Radiation Technician	AA+5	Yes						
64	Thermal Tech.	HS+3	Yes						
<b>65</b>	<b>SOFTWARE &amp; APP. ENGINEERING</b>								
65	Computer Systems Eng.	BS+5							
66	Data Analyst/Software	BS+0							
67	Flight SW Engineer	BS+5							
68	Flight SW Engineer, Sr.	BS+10							
69	Flt. Operations Sys. Eng.	BS+5							
70	Mission/Orbit Analyst	BS+10							
71	Software Engineer	BS+4							
72	Software Engineer, Jr.	BS+1							
73	Software Engineer, Sr.	BS+10							
<b>74</b>	<b>SAFETY/RELIABILITY &amp; MISSION ASSURANCE</b>								
74	Configuration Mngt Spec.	AA+2							
75	QA Inspector	HS+2	Yes						
76	Parts/Materials Engineer	BS+2							
77	Quality Assurance Engineer	BS+5							
78	Reliability Eng.	BS+5							
79	Safety Engineer	BS+5							
*Actual Labor Rates Apply to These Key Positions									
A shift premium not to exceed <b>8% for a second shift and 10% for a third shift</b> over the above standard rates is provided for in this schedule. Shift premiums shall be rare in occurrence and will be negotiated on a task by task basis.									

**Attachment I**  
**Indirect Cost Rate Matrix**

QSS Group, Inc.  
September 2, 1998

Indirect Expenses	CFY 1	CFY 2	CFY 3	CFY 4	CFY 5	CFY 6
On-Site Overhead						
Off-Site Overhead						
Subcontract Administration						
G&A						
Material Handling Charge						
Note: The descriptions of the components included in the QSS proposed indirect pools are cited in Section 1.0, Cost Proposal Narrative of this proposal volume.						

Use or disclosure of data on this page is subject to the restrictions of the title page of this document

**Attachment I  
Incentive Fee Matrix**

QSS Group, Inc.  
September 2, 1998

**TASK FEE MATRIX (for all Task Orders):**

The following incentive fee structures will be used for establishing incentive fees for all task orders issued under this five-year contract. Five structures are provided, including the fifth structure which will provide for rare instances when one of the pre-determined four structures will not provide the best products in a timely, efficient and cost effective manner.

**Fee Structure No. 1:**

COST	10%
SCHEDULE	15%
TECHNICAL	75%

**Fee Structure No.2:**

COST	50%
SCHEDULE	25%
TECHNICAL	25%

**Fee Structure No. 3:**

COST	25%
SCHEDULE	25%
TECHNICAL	50%

**Fee Structure No. 4:**

COST	25%
SCHEDULE	50%
TECHNICAL	25%

**Fee Structure No. 5:**

COST	___% To Be Determined at time of task order issuance
SCHEDULE	___% To Be Determined at time of task order issuance
TECHNICAL	___% To Be Determined at time of task order issuance

Offerors shall propose, as a target incentive, a Task-Level Incentive Fee for task-level performance to be earned in accordance with the Incentive Fee Plan of the contract. The target fee proposed for each task order shall not exceed 6.5% of the total estimated target cost.

**CONTRACT-LEVEL INCENTIVE FEE:**

Overall Cost Performance	25.0%
Overall Schedule Performance	12.5%
Overall Technical Performance	12.5%
Overall Contract Performance	50.0%

Offerors shall propose, as a positive incentive, a Contract-Level Incentive Fee for contract-level performance to be earned in accordance with the Incentive Fee Plan of the contract. The contract-level fee proposed for each task order shall not exceed 3.0% of the total estimated target cost.

**MAXIMUM INCENTIVE FEE:**

the maximum incentive fee shall be the sum of the task-level fee and contract-level fee as proposed by the Offerors. The maximum incentive fee is 9.5%.

**QSS Document #4019**

**ATTACHMENT J**

**CONFLICT AVOIDANCE  
AND  
NON-DISCLOSURE PLAN**

**Re: RFP5-58392/237**

**SEPTEMBER 2, 1998**

**QSS GROUP, INC.  
4500 FORBES BOULEVARD  
LANHAM, MD 20706**



## 1. INTRODUCTION

This document presents the QSS Group, Inc. (QSS) plan for complying with the conflict avoidance requirements for the Multidisciplinary Engineering Development Services (MEDS) Contract, as specified in the Goddard Space Flight Center Request For Proposal RFP5-58392/237. This Plan applies to QSS and the QSS first tier subcontractors, Orbital Sciences Corporation (OSC) and Raytheon STX Corporation (Raytheon). Henceforth in this Plan, the term "Team" includes all QSS, Orbital, and Raytheon personnel who perform work on the MEDS contract. This version of the Plan will be incorporated into the QSS subcontractor agreements with these two organizations. Any modification to this Plan that is required as part of the contract negotiation process will be incorporated into the final subcontractor agreements to be completed after the contract award.

Acceptance of certain tasks that result in material being generated for a subsequent solicitation may preclude elements of the QSS Team from performing work on the task because of a conflict of interest. This Plan provides the process whereby the QSS Team can perform work on this type of task without presenting an unfair competitive advantage or providing a potential bias.

Disclosure of certain MEDS data by the QSS Team is prohibited. This document defines the restricted data and presents the non-disclosure procedures to be followed by all personnel assigned to the MEDS contract.

To assure compliance with the conflict avoidance and data non-disclosure requirements, MEDS personnel shall be required to read this document and sign a Non-Disclosure Agreement, witnessed by the employer's Human Relations Department. This Agreement indicates the employee's understanding of the QSS Conflict Avoidance Plan and the employee's commitment to comply with the procedures in the Conflict Avoidance and Non-Disclosure Plan. This Agreement is provided as Attachment J-1 to this document. The signed Non-Disclosure Agreement will be submitted to the MEDS Contracting Officer when the individual is assigned to MEDS.

## **2. CONFLICT AVOIDANCE**

### **2.1 REQUIREMENTS**

The QSS Team shall take appropriate steps to avoid a conflict of interest when:

- a. QSS accepts a task to develop statements of work and/or specifications, which may be used in subsequent competitive procurements.
- b. Team personnel are required to access other NASA contractor's data of a sensitive or competitive nature.

### **2.2 CONFLICT AVOIDANCE PROCEDURE**

#### **2.2.1 Requirement 2.1a**

The following procedures shall be followed by the QSS Team when the conditions for a task defined in the requirements Section 2.1a exist.

**2.2.1.1** QSS will accept all tasks for the generation of Statements of Work and/or Performance Specifications. QSS waives the right for QSS to pursue subsequent competitive procurements related to this type of task.

QSS shall not unilaterally require its subcontractors to perform work on tasks that have a potential conflict of interest.

**2.2.1.2** When the Task Order Request is received by QSS, the MEDS Program Manager shall contact the subcontractor's signatories to this document, or their designated alternate, in order to determine their respective corporate interest in pursuing the subsequent competitive procurement. A response shall be required in time to reflect any conflict of interest determination in the QSS response to the Task Order Request. The Task Work Plan response shall state the conflict of interest determination and indicate the implementation of the conflict avoidance process, when applicable. The task staffing plan shall not include personnel from the MEDS Team member that has indicated an interest in pursuing the subsequent competitive procurement.

**2.2.1.3** The following restrictions apply when one or both of the subcontractors express an interest in pursuing subsequent competitive procurements related to the task:

- a) Personnel from the subcontractor expressing this interest are restricted from any involvement in the task.

b) Employees of the companies working on the task shall be prohibited from discussing any aspect of the task with the restricted company's employees.

c) Corporate employees of the parties working on the task are prohibited from divulging any information related to this task to corporate employees of a restricted company.

These restrictions shall remain in place until the subsequent procurement is completed, or if the MEDS Contracting Officer notifies the QSS MEDS Program Manager that the conflict of interest status for that task no longer applies.

**2.2.1.4** The following procedures shall be followed when one or both subcontractors indicate an interest in pursuing subsequent competitive procurements:

a) Personnel from the un-restricted companies working on the task shall be located in a restricted area of either the MEDS on-site or MEDS off-site facility, whichever is most suitable to achieve communication control and data access control.

b) Task-related data shall be placed under strict document/data control, as appropriate or as directed by Government requirements.

c) Task information shall be restricted from being placed on the Internet unless the Government authorizes and directs the use of a specific access-controlled Internet Web site.

**2.2.1.5** When it is determined that a conflict of interest condition exists, the Program Manager shall advise the MEDS staff of the condition and direct the staff to comply with the procedures in this document. Notifications of the task non-disclosure restrictions will be posted on bulletin boards in the MEDS work areas. Training on the conflict of interest avoidance procedures will be provided to the individuals involved.

#### **2.2.2 Requirement 2.1b**

The QSS Team shall follow the procedures stated below when the requirement defined in Section 2.1b exists.

**2.2.2.1** MEDS personnel required to access other NASA contractor data shall inform the Program Manager of this requirement. The Program Manager shall make an evaluation of the potential organizational conflict of interest resulting from the handling of this data. The Contracting Officer shall be informed of the evaluation results.

**2.2.2.2** MEDS personnel shall not disclose other NASA contractor data to non-MEDS personnel when the evaluation results determined by 2.2.2.1 indicates the potential for an organizational conflict of interest. The Program Manager shall inform the MEDS staff when this requirement is waived by Contracting Officer direction.

**2.2.2.3** The disclosure to other MEDS personnel shall be on a contractual need-to-know basis.

**2.2.2.4** The Program Manager shall advise the MEDS personnel of any data disclosure restrictions determined under 2.2.2.1. MEDS personnel shall take appropriate measures to safeguard the proprietary data.

### **3. RESTRICTED DATA HANDLING**

#### **3.1 REQUIREMENTS**

Restricted handling of the following data is required by MEDS personnel.

a. Data of third parties which the Government has agreed to handle under protective arrangements. This data can either be marked with a restricted legend, specifically identified by the contract Work Order, or identified in writing by the Contracting Officer as requiring restricted handling.

b. Government data, the use and dissemination of which the Government intends to control.

#### **3.2 DATA NON-DISCLOSURE PROCEDURES**

MEDS personnel shall comply with the following procedures when handling the data defined in 3.1.

**3.2.1** Use, disclose, and reproduce such data only to the extent necessary to perform work required under the MEDS contract.

**3.2.2** Allow access to such data only to the extent necessary to perform the work required under the contract.

**3.2.3** Preclude access and disclosure of such data outside of the MEDS organization.

**3.2.4** When the data is no longer needed, return or dispose of such data in a manner that the Contracting Officer may direct.

**3.2.5** Data ambiguously marked for restricted handling shall be treated as data requiring restricted handling, unless notified in writing by the Contracting Officer that restricted handling is not required.

**3.2.6** The Program Manager shall notify the Contracting Officer when it is the belief of QSS that one of the following conditions eliminates the restrictions on the particular data covered by Section 3.1.

- a. It is or has become generally available or public knowledge without breach of the non-disclosure requirements.
- b. The data is known to the QSS Team, has been in the possession of the QSS Team, or has been developed by the QSS Team independently of any disclosure of, or without reference to, proprietary, restricted, confidential, or otherwise protectible data.
- c. The data has been rightfully received by the QSS Team from a third party without restriction.
- d. QSS is required to reproduce the data pursuant to a court order or other Government action.

There shall be no unrestricted use of this data until the Contracting Officer notification of the restriction removal as indicated in 3.2.5.

#### **4. NON-DISCLOSURE AGREEMENT**

The Non-Disclosure Agreement to be signed by the QSS Team MEDS personnel is provided as Attachment J-1.

**QSS Document #4019  
September 2, 1998**

**ATTACHMENT J-1**

**MEDS NON-DISCLOSURE AGREEMENT**

There are non-disclosure restrictions with respect to certain classes of data to avoid the conflict of interest between the QSS Team and a second party. There are also restrictions on certain data disclosure to protect proprietary interests, to avoid bypassing Governmental control, and to prevent obtaining an unfair competitive advantage. The conditions requiring restricted handling and the procedures to be followed are presented in the Conflict Avoidance and Non-Disclosure Plan, QSS Document #4019.

Personnel violating the procedures specified in Attachment J are subject to disciplinary action and removal from the MEDS contract and/or termination of employment.

Specifically,

- 1) I acknowledge that I have read the Plan and will comply with my obligations thereunder.
- 2) I understand that if I have questions regarding the meaning or application of the Plan or any of its provisions, I shall raise them to the MEDS program Manager.
- 3) I understand that disciplinary action may be taken against employees who authorize, participate in, or fail to report a violation of the Plan.

\_\_\_\_\_  
NAME (Please print)

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
COMPANY AFFILIATION

\_\_\_\_\_  
WITNESS SIGNATURE

\_\_\_\_\_  
WITNESS COMPANY POSITION

NAS5-99124  
Attachment K

MULTIDISCIPLINARY ENGINEERING  
DEVELOPMENT SERVICES  
(MEDS)

INCENTIVE FEE PLAN

JUNE 1998

I. INTRODUCTION

This Incentive Fee Plan reflects the arrangements between the Government and the Contractor regarding incentive fees available under the contract. It explains the applicability and operation of incentive fee clauses contained elsewhere in the contract. This plan addresses only the negotiated incentive fees.

The contract does not contain any fixed fees or award fees.

II. BACKGROUND

This contract is a cost-plus-incentive-fee (CPIF) contract for Multidisciplinary Engineering Development Services in support of NASA's Goddard Space Flight Center.

Under the contract there are incentive fees at both the contract-level and the task order-level. The operation of these incentives are detailed herein.

III. CONTRACT-LEVEL INCENTIVE FEE

This plan provides for a contract-level incentive fee pool, which consists of the sum of the differences between the target and the maximum fees negotiated for each task order and is separated into the following components:

Overall Cost Performance	25.0%
Overall Schedule Performance	12.5%
Overall Technical Performance	12.5%
Overall Contract Performance	<u>50.0%</u>
Total Contract-Level IF Pool	100.0%

Contract-Level Incentive Fees, within each of the four components listed above, shall be earned in six-month increments covering the period starting TBD and ending TBD and starting TBD and ending TBD each year.

As stated above, the negotiated incentive fees alone are treated in this plan. For the contract-level incentive fees, no provisional payments shall be made. All payments will be final.

The four incentive fee pools are discussed individually in the following sections.

A. Overall Cost Performance Incentive Fee

The Government and the Contractor agree that:

1. Each period the Contractor may earn incentive fee for overall cost performance. Each period the overall cost performance incentive fee pool will consist of 25% of the sum of the differences between the target and maximum fees negotiated for all the task orders closed during the period.

2. The Contractor shall earn 100% of the overall cost performance incentive fee for the period if the total actual cost for all tasks closed during the period is less than or equal to the total target cost for all tasks closed during the period.

The Contractor shall earn 50% of the overall cost performance incentive fee for the period if the total actual cost for all tasks closed during the period is less than the total target cost plus 5% for all tasks closed during the period.

3. The Contractor will earn no overall cost performance incentive fee during the period if the total actual cost for all tasks closed during the period is greater than or equal to the total target cost plus 5% for all tasks closed during the period.

4. The total fee reduction for overall cost performance is limited to 100 percent of the overall cost performance incentive fee pool.

5. The Contractor may not bill for provisional payment of overall cost performance incentive fees.

6. Payment of overall cost performance incentive fees is final. No further adjustments shall be made.

7. If the Contractor and the Government fail to agree on



the determination of total actual cost of all tasks closed during the six-month period, the Contracting Officer may unilaterally determine final overall cost performance incentive fee, which determination may be subject to the Disputes clause.

B. Overall Schedule Performance Incentive Fee

The Government and the Contractor agree that:

1. Each period the Contractor may earn incentive fee for overall schedule performance. Each period the overall schedule performance incentive fee pool will consist of 12.5% of the sum of the differences between the target and maximum fees negotiated for all the task orders closed during the period.

2. The Contractor shall earn 100% of the overall schedule performance incentive fee for the period if during said period no individual delivery of a required deliverable item is greater than the scheduled delivery date plus 10 calendar days.

3. The Contractor will earn no overall schedule performance incentive fee during the period if a single delivery of a required deliverable item is greater than the scheduled delivery date plus 10 calendar days.

4. The total fee reduction for overall schedule performance is limited to 100 percent of the overall schedule performance incentive fee pool.

5. The Contractor may not bill for provisional payment of overall schedule performance incentive fees.

6. Payment of overall schedule performance incentive fees is final. No further adjustments shall be made.

7. If the Contractor and the Government fail to agree on the determination of total schedule performance during the six-month period, the Contracting Officer may unilaterally determine final overall schedule performance incentive fee, which determination may be subject to the Disputes clause.

C. Overall Technical Performance Incentive Fee

The Government and the Contractor agree that:

1. Each period the Contractor may earn incentive fee for overall technical performance. Each period the overall technical performance incentive fee pool will consist of 12.5% of the sum

of the differences between the target and maximum fees negotiated for all the task orders closed during the period.

2. The Contractor shall earn 100% of the overall technical performance incentive fee for the period if during said period the total number of deliverable items meeting first-submittal acceptance requirements is equal to or greater than 90%.

3. The Contractor will earn no overall technical performance incentive fee during the period if the total technical performance percentage is less 90%.

4. The total fee reduction for overall technical performance is limited to 100 percent of the overall technical performance incentive fee pool.

5. The Contractor may not bill for provisional payment of overall technical performance incentive fees.

6. Payment of overall technical performance incentive fees is final. No further adjustments shall be made.

7. If the Contractor and the Government fail to agree on the determination of total technical performance during the six-month period, the Contracting Officer may unilaterally determine final overall technical performance incentive fee, which determination may be subject to the Disputes clause.

D. Overall Contract Performance Incentive Fee

The Government and the Contractor agree that:

1. Each period the Contractor may earn incentive fee for overall contract performance. Each period the overall contract performance incentive fee pool will consist of 50% of the sum of the differences between the target and maximum fees negotiated for all the task orders closed during the period. Contract performance shall be divided into four categories as follows:

1. Submission of all required reports, certifications, notifications, and requests per the contract schedule -- 25%.
2. Submission of all task plans per Clause H.15 of the contract schedule --- 25%.
3. Positive performance trending in all required engineering disciplines (as determined via combining the earned technical and schedule

incentive fees at the task-level) -- 25%.

4. Submission of other data as required by the Contracting Officer -- 25%.

2. The Contractor shall earn 100% of the overall contract performance incentive fee for the period if the total contract performance is rated 100%.

The Contractor shall earn 75% of the overall contract performance incentive fee for the period if the total contract performance is rated 75%.

The Contractor shall earn 50% of the overall contract performance incentive fee for the period if the total contract performance is rated 50%.

The Contractor shall earn 25% of the overall contract performance incentive fee for the period if the total contract performance is rated 25%.

2. The Contractor will earn no overall contract performance incentive fee for the period if the total contract performance percentage is 0%.

3. The total fee reduction for overall contract performance is limited to 100 percent of the overall contract performance incentive fee pool.

4. The Contractor may not bill for provisional payment of overall contract performance incentive fees.

5. Payment of overall contract performance incentive fees is final. No further adjustments shall be made.

6. If the Contractor and the Government fail to agree on the determination of total contract performance during the six-month period, the Contracting Officer may unilaterally determine final overall contract performance incentive fee, which determination may be subject to the Disputes clause.

#### IV. TASK ORDER INCENTIVE FEES

Clause B.7 of the contract schedule provides a format for subsequent task orders which will separate the task order value into the following components: Target Cost, Target Fee, and Total Target Cost and Fee. As stated above, the negotiated incentive fees alone are treated in this plan.

The target incentive fee negotiated under each task order will be divided via one of the five pre-established fee structures provided in Attachment I of the contract. Each structure provides a cost incentive, schedule incentive, and technical incentive. How much of the target fee the Contractor earns depends on performance in each incentive fee areas (or pools) being measured, i.e., cost incentive is earned based solely on cost performance; schedule incentive fee is earned based solely on schedule performance, and technical incentive fee is earned based solely on technical performance. The three pools are separate and distinct, and the fee earned is assessed separately, based on different performance parameters.

The three incentive fee pools are discussed individually in the following sections.

A. Cost Incentive Fee

Federal Acquisition Regulation (FAR) Clause 52.216-10 Incentive Fee (contract Clause I.3) applies only to the cost incentive fee pool; it does not apply to any other incentive fee pools established in the task orders.

The terms defined in the Incentive Fee clause have the meanings set forth therein.

The Government and the Contractor agree that:

1. The Contractor will earn 100 percent of the cost incentive fee pool if the total allowable cost is less than 115% percent of target cost (i.e., the Contractor will earn the entire cost incentive fee pool if there is less than a 15 percent overrun).
2. The Contractor will earn no fee from the cost incentive fee pool if the total allowable cost exceeds target cost by 15 percent or more. If, in accordance with the Limitation of Cost clause (52.232-20), the estimated cost of the task order is increased in recognition of a cost overrun, such that the total estimated cost exceeds the target cost by 15 percent or more, the Contractor shall contribute 100 percent of the cost incentive fee pool to help fund allowable cost. This will be reflected in a task order modification that reduces the cost incentive fee pool to \$0.
3. The total fee reduction for cost performance is limited to 100 percent of the cost incentive fee pool.

4. The Contractor may bill for provisional payment of cost incentive fees in accordance with the Incentive Fee clause (52.216-10).

5. The final allowable cost will be established when all deliveries required under the task order are complete and actual costs are known with a fair degree of certainty.

The total, contract-level allowable cost and the adjusted, total cost incentive fee will be determined as provided by paragraph (e) of the Incentive Fee clause (contract clause I.3), and evidenced by a contract modification as provided by paragraph (f) of the Incentive Fee clause.

6. If the Contractor and the Government fail to agree on the determination of final allowable cost and the adjusted cost incentive fee, the Contracting Officer may unilaterally determine the final cost incentive fee, which determination may be subject to the Disputes clause.

7. If, after the adjusted cost incentive fee has been determined, a refund of provisional payments is due the Government, the Contractor will follow the Contracting Officer's instructions regarding refund or transfer of overpayments of cost incentive fee to reduce amounts payable to the Contractor to cover costs incurred in contract performance.

#### B. Schedule Incentive Fee

No other contract clauses apply to the schedule incentive fee pool.

The Government and the Contractor agree that:

1. The Contractor will earn 100 percent of the schedule incentive fee pool if the required deliverable item(s), as specified in the individual task order, is/are received at NASA's Goddard Space Flight Center on or before the date stipulated in the individual task order.

2. Schedule incentive fee will be reduced at a rate of 3.33% of the total schedule incentive fee pool per day for every day the delivery or deliveries is/are delayed.

3. The total fee reduction for schedule performance is limited to 100 percent of the schedule incentive fee pool.

4. The Contractor may bill for provisional payment of schedule incentive fees in accordance with the Incentive Fee clause (52.216-10).

5. The delivery schedule of each task order may be adjusted by mutual agreement between the Government and the Contractor. Adjustments will be made by a modification to the task order.

6. The final schedule incentive fee will be established when delivery of the deliverable item(s) specified in the individual task order is complete. The adjusted schedule incentive fee will be determined as set forth in IV.B.1, IV.B.2, and IV.B.3 above and will be evidenced by a modification to the task order.

7. If the Contractor and the Government fail to agree on the adjusted schedule incentive fee, the Contracting Officer may unilaterally determine the final schedule incentive fee, which determination may be the subject of dispute under the Disputes clause.

8. If, after the adjusted schedule incentive fee has been determined, a refund of provisional payments is due the Government, the Contractor will follow the Contracting Officer's instructions regarding refund or transfer of overpayments of schedule incentive fee.

#### C. Technical Incentive Fee

Each individual task order shall specify the contract clauses which are applicable to the technical incentive fee pool. Any clause(s) specified in the individual task order as applicable to the technical incentive fee pool shall be applicable to the technical incentive fee pool only and shall not apply to any other incentive fee pool established.

The Government and the Contractor agree that:

1. The Contractor shall earn 100 percent of the technical incentive fee if the Contractor has met all of the technical specifications required in the individual task order.

The Contractor shall earn 50 percent of the technical incentive fee if the Government has made acceptance of the deliverable item.

2. Technical incentive fee will be reduced at a rate to be

specified in the individual task order.

3. The total fee reduction for technical performance is limited to 100 percent of the technical incentive fee pool.

4. The Contractor may bill for provisional payment of technical incentive fees in accordance with the Incentive Fee clause (52.216-10).

5. The technical performance measures of each task order may be adjusted by mutual agreement between the Government and the Contractor. Adjustments will be made by a modification to the task order.

6. The final technical incentive fee will be established when the task order is complete. The adjusted technical incentive fee will be determined as set forth in IV.C.1, IV.C.2, and IV.C.3 above and will be evidenced by a modification to the task order.

7. If the Contractor and the Government fail to agree on the adjusted technical incentive fee, the Contracting Officer may unilaterally determine the final technical incentive fee, which determination may be the subject of dispute under the Disputes clause.

8. If, after the adjusted technical incentive fee has been determined, a refund of provisional payments is due the Government, the Contractor will follow the Contracting Officer's instructions regarding refund or transfer of overpayments of technical incentive fee.

(End of Attachment K)